EDUCATIONAL BOOKS
EDUCATIONAL LIBRARY
UNIV. OF MICH.

Teachers College RECORD

November 1927

CONTENTS

Education for Initiative and Originality [A Reprint] *Edward L. Thorndike* 89

The Correlation of Art and Industry *George J. Cox* 101

Contribution of Physical Education to the Education of the College Student *Jesse Feiring Williams, M.D.* 109

Health Education Materials from the Psychological Viewpoint *Laura Zirbes* 125

Fine Art and Literature in Health Education *Phyllis Ratford* 138

Methods of Constructing and Validating the Gates Reading Tests *Arthur I. Gates* 148

New Studies in Education 160

Alumni Activities 168

BUREAU OF PUBLICATIONS
TEACHERS COLLEGE COLUMBIA UNIVERSITY

$2.50 a Year 35 Cents a Copy

TEACHERS COLLEGE RECORD

VOL. XXIX, No. 2 NOVEMBER 1927

WILLIAM F. RUSSELL, *Editor*
Dean of Teachers College

CLYDE J. TIDWELL, *Managing Editor*
Director, Bureau of Publications

IMPORTANT NOTICE

Beginning with the Fall of 1927 the Teachers College Record will be published 8 times a year instead of 10 times a year. The total number of pages published during the year will be, however, the same as heretofore. The Record will be issued from October to May inclusive.

THE TEACHERS COLLEGE RECORD is issued eight times a year, monthly except June, July, August, and September. The subscription price is $2.50 per year; foreign postage, 50 cents; Canadian postage, 30 cents. Single numbers are 35 cents each, postpaid.

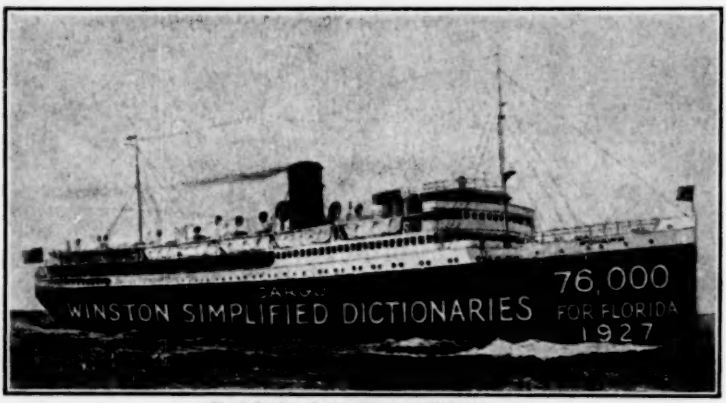
Publication office, Federal and 19th Streets, Camden, N. J., and 525 West 120th Street, New York City. Editorial and general offices at the latter address. Printed in the United States of America.

Entered as second class matter March 17, 1926, at Post Office at Camden, N. J., under the Act of March 3, 1879.

Copyright, 1927, by TEACHERS COLLEGE, Columbia University.

WINSTON

Another Tribute to The Winston Simplified Dictionary



Published in Three Editions

Primary
For use in the lower grades

Intermediate
For use in all elementary grades

Advanced
For use in high schools and colleges, and for teachers' desk use

Send for illustrated literature describing all three editions

THE JOHN C. WINSTON COMPANY

Winston Building Philadelphia

FOR TEXTBOOKS

VOLUME XXIX NUMBER 2

Teachers College
RECORD

November, 1927

EDUCATION FOR INITIATIVE AND ORIGINALITY

By EDWARD L. THORNDIKE
Professor of Education, Teachers College

This address by Professor Thorndike was one of a series given before the Staff of Teachers College in 1916. It first appeared in The Record of November, 1916, and since that time has been reprinted as a bulletin a number of times. Because of the persistent interest in the article, The Record is printing it again.—EDITOR.

IT IS my office to report what recent psychology can suggest concerning training for self-reliance or independence, initiative, and originality—"all from the standpoint of education in a democratic state and for the sake of efficient democratic citizenship."

Unfortunately a standard report, voicing settled doctrines of science, cannot be made. We are not agreed even concerning how far self-reliance, initiative, and originality can be trained, or concerning the elementary qualities which constitute them, and their mode of operation. I can therefore only report probabilities as I see them.

We may best begin with some negatives. Self-reliance, initiative, and originality are not little deities of the mind which act according to caprice. They are as truly determined by natural law as the fall of a stone or the rise of the tides.

They are not intelligent slaves which hasten to act when bidden. No child becomes independent merely by being told to think for him-

self, or original merely by being ordered not to be a copy-cat. If every one of the half million teachers of our country should to-morrow, and every day thereafter for a decade, order, "Be more independent, self-reliant, and original than you have been," these billions of commands would, in and of themselves, do nothing to attain their object. Other factors than the mere commands would decide whether an increase or a decrease in these virtues would result.

Nor will indiscriminate practice make them perfect. Self-reliance, initiative, and originality (which we may call the active virtues of citizenship in contrast to obedience, docility, and conformity) are specialized in their development. Self-reliance in handicraft need not imply self-reliance in thought about politics or religion. Originality in mathematics or salesmanship is consistent with the most complete conformity to social customs. Extreme expectations of all-round improvement—formal discipline—in these active virtues are as fallacious as they are elsewhere. A boy will not be made independent in general by being led to choose his own method of solving each of a thousand problems in arithmetic, any more than he will be made a good observer in general by recording the cloudiness of the sky daily for a year. Some transfer there is, but not enough to excuse the absence of special training in the special fields where the virtue is required by life to act.

Further, these virtues, in the shape in which the community or nation requires them, could not be general, ubiquitous, unfailing tendencies. The nation does not wish its citizens to rely each on himself when to rely on a physician or public-health officer or financial expert or chemist is wiser. It is folly for more than a dozen men out of a million to try to think of anything original about Newton's laws or the Napierian system of logarithms. To cultivate a general, diffuse initiative would be to become a busy-body. For a man whose every thought was original we should have to go to our hospitals for the insane!

We have to cultivate these active virtues in such special lines as are important "for the sake of efficient democratic citizenship," and to guard them against misuse. We cannot simply demand them, nor give them indiscriminate exercise.

As I see it, the first and most important step toward so cultivating them is to treat them consistently as positive factors,—to think of

independence, not as an unreadiness to follow or obey or believe other men, but as a readiness and ability to contribute to good causes something more than is suggested by others,—to think of initiative, not as an unreadiness to wait or coöperate or be modest, but as a readiness and ability to move ahead, 'speed up,' lead and take promising risks, and as an attitude of expecting to create opportunities, take risks, and do ten dollars' worth of work for a dollar. Originality must not mean weakness in doing routine work in old ways, or any essential dislike of traditional knowledge or customs as such, or any paucity of fixed habits,—but strength in doing work that is new or doing it in new ways, an attitude of hoping to change knowledge or practice for the better, an organization of habits that causes their progressive modification.

This matter seems to me so important that I venture to illustrate it in the case of originality.

Once in so often some student who wishes to do work for the Doctor's degree in education writes about his ideas and adds that he knows they are original, because he has avoided reading anything on the topic! We never encourage such men to come to Teachers College.

It is my lot to read many manuscripts on psychology and education. The commonest mistake which they reveal is the painful elaboration by a man, through long years, of some intellectual result which he should have acquired in ten hours in the course of the routine work of keeping up with what has been done in his field.

It is my privilege to know a fair number of original thinkers and workers in science, medicine, the ministry, law, and business. Such men are extraordinarily competent in routine work and extraordinarily strong in mere knowledge. The most original children of my acquaintance are so not by any denial of the claims of mere lesson-learning and skill-acquiring in traditional ways. On the contrary, they could beat the pedants and hacks of equal age at their own games. Occasionally they, and like minds of older age, become justly skeptical of the past, and impatient of methods adapted to dull minds, but they never have the hopeless skepticism of the fool who does not care enough about the past even to learn its contributions.

During the past month I have been studying the ratings of sixty electrical engineers employed by the Westinghouse Company and

rated by the company's officers for originality and seventeen other qualities, such as thoroughness, knowledge, industry at routine tasks, and the like. Far from there being any antagonism between originality and industry at routine tasks, or between originality and common sense, or between originality and system, there is a positive correlation, and one as close as that between industry and enthusiasm or that between thoroughness and system.

The truly independent thinker does not make less use of other men's ideas than the servile thinker, but more. The expert man of science or law or business has a thousand masters while the servile mind has but a few. The truly independent thinker does not put less faith in his masters than the servile mind. He puts more faith in them, but he chooses the right ones to put his faith in. The servile mind has faiths that seem strong only because he never questions them. His faith in Jones' liver pills or the divine right of kings is really at the mercy of any new quack or Napoleon. In fact, a good definition of intellectual independence is "reasoned dependence."

The truly initiating mind does not imitate less, but more. It imitates more men, in more fields, in a greater variety of conditions. But here again it is reasoned imitation; and out of multifarious reasoned imitatings, comes, to him who has the capacity, the insight to discern, and the zeal to take, the profitable risk, the hopeful leap in the dark, the courageous step upward where no foothold may be found.

Nothing, then, need be lost for American independence, initiative, and originality by greater emphasis on obedience to the right masters, imitation of the right models, and learning of the right facts in our schools. If it is necessary for our future as a nation that our present laissez faire and individualism give way to deliberate learning to do the nation's work, obey the nation's creed, and live as the nation decrees, there need not be any loss in the useful self-reliance, enterprise, and inventiveness of our people.

Only two conditions must be fulfilled. First, the masters, models, facts, creeds, and ideals must be right, in the sense of being impartially chosen in the light of pure reason as the best for the nation's welfare. Second, each man and woman, boy and girl, must be taught, so far as he can learn it, that he, as well as the highest of his rulers, is free to do what he can to change ideas, customs, masters,

models, creeds, and ideals—for the better, and that not the highest of the highest is free to change them otherwise.

Let us turn this somewhat abstract analysis into terms of practice. I dare to affirm that if we had a national system of education, with all private schools rigidly supervised by the state, and if the educational obligations were fixed by central authority for every future citizen, there need not be one iota less of worthy independence, initiative, and originality in our population, if this central despotism was constituted by enlightened reason acting for the nation's good. Permit me to add that I do not believe in such a central organization within ten or perhaps a hundred years. If I had believed in it, Professor Dewey's address in this series would have converted me. Still less, however, do I believe that such a form of organization would necessarily weaken the active virtues which are our topic, or that if it did weaken them, it would do so by its success in inculcating obedience, fidelity, accuracy, knowledge, and skill. Effective independence, initiative, and originality are not the negations of dependence, imitation, and fixed habits, but are their continued organization upon a new and higher level.

Assuming that it is folly merely to demand, and wasteful to give indiscriminate, miscellaneous practice, and that we do not need to rob useful obedience, imitativeness, or conformity to pay independence, initiative, and originality, what shall be done to cultivate these active virtues?

The general answer is, "Provide those situations which by the nature of *homo sapiens* call the active virtues into play; and make their exercise satisfying to the individual. Induce these tendencies to act; and reward their action." In schools, the prolongation of school life, the provision of work with things as well as with words, the use of humane and significant projects, and the encouragement of specialization have been valuable factors in replacing submissive and passive by energetic and active thinking. For they have given boys and girls more chances to be mentally independent and aggressive in useful ways. The introduction of the physical sciences and the learning of history, literature, and languages in something more or less approximating the scientific spirit, have been valuable. For one article of the creed of the man of science has been to reward intellectual enterprise.

The recent movements to dignify manual and executive work in the schools, providing for the boys and girls who can manage things and men whether they can or cannot manage ideas, seem likely to be very valuable by giving a chance for useful exercise of the active virtues by pupils whose only wise act of initiative with respect to abstract linguistic and mathematical pursuits would be to drop them! Also teachers are more likely to discern and reward useful enterprise in making things or running errands than in methods of study in the abstract fields.

Still more important, probably, is the indirect rewarding of these virtues in the young by rewarding them in the world at large. We are just beginning to learn to honor our prophets or initiating classes instead of stoning them, and to pay for originality at least a small fraction of what we pay for conformity. To learn it fully and practice it will mean an enormous addition to the useful initiative and originality of our country. So long as we pay a physician $50,000 a year for following the old routine and pay nothing to the man of equal general ability for discovering a far better treatment, can we expect our medical students to try to be usefully original? The Nobel prizes since their inception have received less public attention (as measured by newspaper space) than a single prizefight. The public still pays more money to be fooled by quack advertisements and poisoned by quack drugs than it pays for the bureau of commerce and labor, schools of commerce, and all our public health service,—probably five times as much.

I recently asked one of our most successful story-writers why he chose that career. He replied, "On thinking it over I decided that there were two things that human beings had enjoyed most since the world began—eating and drinking, and listening to lies. Having absolutely no talents as a restaurant keeper, I had my try at telling them lies." If we would only reduce the alcohol in our physical, and the lies in our intellectual, dietaries, and spend the savings in rewarding the men who use initiative and originality for the common good! To give able men and women a chance to be enterprising and reward their useful enterprises is the surest way to cultivate the active virtues.

So in schools also we have only to give boys and girls chances to be self-reliant and inventive in matters where it is useful for them to be so and to reward their successful efforts.

The response a pupil makes to any situation is caused in large measure by his attitude or mind-set. The same intellect may absorb, or absorb and criticize, or absorb, criticize, and seek to amend, the doctrine, according as it happens to be born in the fourteenth, eighteenth, or twentieth century, or to attend a theological school, law school, or research institution to-day. The mere attitude of expecting to do more than one is required to do, to see more than one is shown, to try more experiments than one has seen tried, in and of itself increases the independence and aggressiveness of one's action and thought in the situation or field in question. The school teaches pupils to be self-reliant and inventive by teaching them to take independent and aggressive attitudes when and where they should.

If these principles are sound, the technique of teaching these active virtues has to reckon with two main problems. First, for any given pupil at any given stage, what shall he accept more or less blindly and what shall he prove to himself? When shall he follow and when shall he go ahead by himself? Where shall he be ruled by outside pressure and where by reasoned conviction? Second, how may he be led by the laws of his own nature, to think and act wisely for himself in those cases where he should do so? There is here obviously room for infinite ingenuity, experiment, and improvement. Present practice is chaotic, but hopefully openminded and experimental.

My comments also will be chaotic, in the form of a few questions and suggestions, first about the selection of occasions for active rather than passive behavior.

Is not our present selection of occasions for the exercise of the active virtues rather indiscriminate, at times leading to improper vainglory and at times to unnecessary discouragement or sluggishness? Probably many of you have been amused in kindergartens at hearing the five-year-olds urged to independent judgment on matters of difficult fact and taste; and then later seeing them make no attempt to put on their own coats and rubbers. The high school pupil is expected to solve difficult originals in geometry, but not to keep any account of how he studies or of which methods of study serve him best.

Do we not permit or even encourage young and old to decide for themselves in many cases where they should decide whom to ask to decide for them, or should contribute facts and reasons to aid the

expert in his decision, or should learn the expert's general decision and modify it to suit their special needs? On the other hand are they not often left to follow conventional customs or blind faiths where a rational decision is really well within their powers?

We have seen that, in our day and manner of life, independence consists in choosing whom to follow rather than in following one's own devices. Is not special training in judging the qualities of leaders worthy of a place in democratic education? By our theory we must not teach future citizens to follow hereditary kings or lords, or a military or priestly caste, or a landlord class. But human beings will follow and should. Who should be followed in a democracy? I see no answer but "the impartial expert." Men and women who best know the facts in a given field and who judge the facts most impersonally seem the safest to trust. If a dozen able boys were set to studying business from sixteen to twenty-five in the same spirit and by the same methods now used in studying science and engineering, being taught to think of personal profit no more and no less than the scientist is taught to think of it, I would rather trust them to control railroads, insurance companies, and the like than trust any state legislature in our land. In a nation of a hundred million people ninety-nine per cent of the power must be given to one per cent of the people. Cannot boys and girls of the high school age be taught that the essentials for leadership are expertness and impartiality? At least, they can be taught that glorious apparel, self-esteem, prodigality, physical prowess, the "glad hand," and a silver tongue, before which man's original nature bows, are not symptoms of fitness to lead in the twentieth century. They can also be cured of the unfortunate pretense that one person is as good as another in politics, personal and public hygiene, or business management.

Do we allow sufficiently for individual differences, setting tasks for the active virtues that are within the individual's powers?

The fact that only a small fraction of a school class usually succeeds with tasks demanding initiative and self-direction seems to me to bear witness to their too great difficulty. Indeed, it seems to be tacitly assumed by many of those interested in encouraging self-reliance and aggressive thought, that not more than a quarter of the pupil's own shots will be hits. The common assumption is that in the active virtues it is the attempt rather than its success that counts.

Is it not often considered entirely permissible for three out of four children in the class to make preposterous suggestions so long as the answer comes from somewhere in the class rather than from the teacher? Yet there is no rational justification for teaching pupils to fail in original thinking any more than in routine. It is true that a pupil may well make a hundred failures as means to eventual success, if the failures are instructive, but our toleration of failure *outright* seems a sign of improper selection of the tasks.

Do we sufficiently realize that provision by routine for all matters which do not actually demand thought may be made one of the greatest aids to self-reliance, independence, and originality in those matters which do demand thought?

It would obviously be idiotic for the man who has to decide important questions of scientific truth, or legal evidence, or business policy to decide on each occasion what he shall eat, what clothes he shall wear, or whether he shall walk or ride. Ten minutes a month should establish the necessary routines. So in school also a certain economy of initiative is desirable. A boy's originality as a writer is not checked by being given once for all a routine for the size of margin, place of heading, and the like. As we noted earlier, the dynamic opposite of originality is not efficiency in routine, but stupidity; the dynamic opposite of efficient routine is not genius, but disorder.

Finally, will it not clear the whole argument somewhat if, in our thinking about education, we replace the word "self-reliance" by *reliance on facts,* "self-direction" by *rational direction,* "initiative" by *readiness and ability to begin to think and experiment,* "independence" by *readiness to carry thought or experiment on to its just conclusions despite traditions and custom and lack of company;* and if we add to the company of these active virtues an impersonal, objective habit that scorns hopes and fears and neglects self-interest, cherishing only the naked facts of life and the zeal to control them for the common good?

Are not the active virtues of citizens in a democratic state in sum and substance the ability and readiness to think and act *impersonally,* each man as nature has given him capacity, and in the field where his thought and action will do the most good?

If the state is itself rational—a sincere effort to work out the best possible harmony of the conflicting wants of its members—it can

command obedience, and prescribe useful habits for its citizens in school and out, with, so far as can be seen, a net increase in the power of independent thought and action. For it is the magic of reason—of impersonal thought,—as of nothing else in the world, to be an essential necessary harmony. Fixed habits, chosen by reason, promote it. Obedience to laws devised by reason is a training in reasonableness, not slavery. Whatever wounds reason inflicts, reason itself can heal.

The life of reason will prevail in the nation (within the limits set by human capacity), just as fast and far as we really wish it to prevail.

In the long run a nation, unless subject to severe external compulsion, does get as good government as it deserves, as good education as it really wishes, and as good thinking and action as it will tolerate. Nobody forces the United States to pay a million dollars a year to Miss Mary Pickford and Mr. Charlie Chaplin. We do it because we wish to. We could have paid a million a year to Joseph Henry, the prime mover in modern electrical inventions, and to Louis Pasteur, the beginner of preventive medicine, if we had chosen. It is our own fault if John L. Sullivan, the prize fighter of Boston, had a fame far outstretching Horace Mann's. Within the limits set by the capacity of the human species, we can have just as efficient citizenship in this democracy as we really crave.

It seems probable that in the decade to come the leaders of American education will strive deliberately to adapt school work more fully to the job of making our national government safe against attack from without. The clamor for military drill in schools, for example, measures a popular feeling which educational leaders should use to secure support for really valuable training in both active and passive national virtues.

Here is, it seems to me, a wonderful opportunity for you to use whatever independence, initiative, and originality you have. Is the nation with the strongest army and navy least likely to go to war? Have the successes of Germany in the present war been due to junkerdom and the slavery of military conscription or to the social and industrial reforms which have made the German workmen happy and competent? Are all wars really about money in the first instance? Are the manly virtues prostituted to the childish notion that it is prof-

itable for one nation to make money at the expense of another? Is it true that the rank and file of a nation always suffer from a war, but on the average are as well off from losing as from winning? What does each nation, as a nation, really want? If some omniscient trustee for all the nations of the world could list the actual cravings of all his wards, what would they be and which of them would conflict, and what would be the effect of this, that, and the other possible war upon their realization? Do we as a nation really want to exclude a man from citizenship because he is of Japanese birth, or to trade with any nation to its disadvantage, or to drive a sharp bargain in a treaty, or to stand in the world's limelight as a boss of the world's affairs? What do we really want? What ought we to want? Just what are the dangers to our country from without? What are the dangers from weakness, conflict, and corruption within?

Would it not be worth while for us to find out the answers to these and similar questions as a means to planning our campaign to use the schools to preserve the nation and to make the nation worth preserving? Should we not keep on going to school to the economists, historians, and men of affairs, as we have been doing in these conferences, and by absorbing, imitating, and following, organize our minds to creative work toward a sound national educational policy?

As a profession, we have in the past been content to leave questions of concrete national ideals in action to publicists, contenting ourselves with generalities of philosophy and ethics or detailed issues of school management and teaching. Most of you probably still believe that a board of representative men,—lawyers, business men, manufacturers, and the like,—should determine educational policy.

Whichever *should* be the case, I am convinced that just as soon as we develop men who are justly recognized as educational experts, policies as well as their execution will be left largely to them. The world is learning rapidly that when a man of ability has studied a topic scientifically and makes his judgments about that topic in the impartial, impersonal fashion of the expert, it is wise to put on him every responsibility in that limited field that he will take. Control by public opinion and legislation is giving way to control by expert administrative boards at an increasing rate. If any five of our graduates were in the minds of the country as qualified in education as, say,

Doctors Welch and Flexner are in medicine, I believe they could become a national commission with power to regulate schools within ten years. It might not be for the nation's advantage that they should thus become educational dictators, responsible only to their consciences and professional ideals, but it certainly will be for the nation's advantage when five hundred men and women are qualified as experts for such work. What greater stimulus to learning and industry, initiative and originality, could there be than the work of finding and training them? Teachers College must do its part in discovering and developing "educational leadership that shall concern itself not merely with the mechanics of school-keeping, but also shall rise to the heights of patriotic statesmanship."

THE CORRELATION OF ART AND INDUSTRY

By GEORGE J. COX
Professor of Fine Arts, Teachers College

THIS article does not presume to illuminate a field that has been so ably and exhaustively explored by such authorities as Bonser, Bach, Eggers, Gloag, McMurry, Richards, Llewellyn Smith, and others. It is merely an attempt to indicate a correlation of the spirit—already achieved in Sweden—without which coöperation between art and industry will always remain incomplete.

The speculation, if not valuable, is appropriate, for to-day everyone but the Tabloid addict is art conscious, almost self-conscious; it might be important, for an almost industrialized world turns increasingly to art as its most effective sales agent; and it is peculiar, because it so often seems that when it is a matter of raising the aesthetic standards of the nation a genuine passion for art is less effective than the practical and pedestrian efforts of the industrialist. And it presents a paradox, for the industrial arts in seeking utility have put on some of the incorruptibility of art, whilst the fine arts in attempting rôles outside their natural orbit have lost sight of their true function, and seem here and there in danger of losing their virtue.

Just ten years ago, the late Professor Dow made the following statement: "Art is not defined by use—a useful thing is not necessarily beautiful, as some will claim. . . . Hegel in his Philosophy of Art warns us not to make too much of material. 'What art creates upon this dead material belongs to the domain of the spirit and is living as the spirit is living.' Says Fenollosa, 'Use is something which belongs equally to art and not-art.' Mr. Flexner reminds us that the terms 'serving a purpose,' 'useful,' 'genuine,' etc., are not synonymous with 'utilitarian,' 'materialistic,' 'commercial,' and the like. The so-called practical and useful arts *alone* will not give us a secure foundation for effective and efficient art teaching that will reach the whole people." Those were his words, and they are as unassailable to-day as when they were spoken. His thesis that utility does not

connote art can hardly be disproved, despite the pungent demonstration of Socrates and sundry others since the fifth century B.C.

The humble basket instanced by the Greek sage may have been more beautiful than the golden shield with which he contrasted it, but we all know that the very adequate dentist's chair, or the jam jar which may hold water and flowers more efficiently than an "art" pot, is quite devoid of delight to the eye.

It is, however, possible to subscribe to Professor Dow's tenet and yet maintain that the search for utility frequently ends in beauty, and prove the contention by reference to scores of objects, from a bell-push to an airplane. And it is doubtful if Professor Dow would have felt it so necessary to-day to adopt the uncompromising stand that, twenty-five years ago, the crass vulgarity of the industrial arts forced him to assume.

Fifty years ago industrial art was a fearful and wonderful thing, and utility invariably spelled ugliness. Even a quarter of a century ago industry and beauty could rarely be bracketed together. Those who can recollect the industrial products of the '90s have only to recall to mind the utilities of the homes of those days, and contrast them with the things that now replace them, to realize that on the whole, as the products of the machinist, the plumber, and the furniture maker become more efficient, they approached nearer to beauty. It is hardly necessary to point out the same trend shown in costumes, ships, automobiles, and many other things.

Quite early in this progress it was remarked that in the lower forms of art-crafts and art-industries, intelligence, even on a humble plane, was more productive of beauty than the misdirected efforts of artistic designers obsessed by a love for mediaeval crafts, or an "arty-crafty" affection. It was not long before some aesthetic Columbus discovered "Art in Industry."

It was not so frequently observed that even in the fine arts, fitness to purpose is also a *sine qua non* of beauty. One may subscribe to that axiom and still agree that the least breath of a utilitarian purpose blights the soul and lames the form of fine art.

It was only when the Greek sculptor began to think of his audience, when he attempted to awe, surprise, and impress the beholder, that his work became corrupt. When the sculptor was content to fashion his conception with a single eye to the expression of his own ideals,

in which his country's aspirations were summed up, he succeeded at all points. His gods functioned superbly; they were mysterious and withdrawn. His frieze or metope communicated his purpose; they worked.

Just at present art does not invariably "work." The truth of that assertion may depend upon the point of view—whether you consider art as an emollient or an emetic. But in any case art to-day is weakened by a malady similar to that affecting the stage. The exponents of either art seem unable to forget themselves when attempting their rôles. The blight of personality is over everything. Each one says with Marcus Aurelius, "I must be emerald and keep my color," ignoring the irony, and his previous question, "Is such a thing as an emerald made worse than it was, if it is not praised?"

If to-day laymen complain that the fine arts have developed all kinds of fads, practiced strange cults, and coined an esoteric vocabulary quite remote from common humanity and divorced from life whence all healthy art derives, there is much foundation for their criticism. It is to be observed that only when pottery was on its last legs, when every vestige of beauty had departed, that its makers started to call it "art pottery." It was only in the nineteenth century, when their art was far to seek, that artists retired into studios like boudoirs to practice the "fine arts." Art, if it is to live, must be part of life.

To-day the real leaders are out in the open again, boldly seeking contact with life. No one in touch with this advance guard can fail to note the keen and acid tang that has replaced the sickly sweetness of the end of the nineteenth century. None but those to whom any change is an affront can fail to appreciate the experimental spirit now abroad. Art is more alive than it has been for many a long day.

Yet we do see many of its most ardent advocates forgetting that we can't produce fine art without fine artists, and fine artists are not sporadic and mushroom growths; fine art does not arise from an explosion of temperament, or a sort of spontaneous spiritual combustion in inadequately trained, probably immature, and possibly illiterate products of a restless civilization.

At all costs these extremists must be different; some are even heard asserting that they have never studied art, or contaminated their style by visits to museums—a somewhat unnecessary disclaimer.

Change is imperative, but in too many cases the necessary spirit of change is unaccompanied by the spirit of conservatism which, in "Science and the Modern World," Whitehead maintains is its indispensable complement where real achievement is desired.

There is an excess of change without growth, and of tradition without spirit. Together the impatient reformers and the dull conservatives have built up a barrier between themselves and their public; between the fine arts and the industrial arts.

There are other anomalies. It may be noticed that as we become more and more democratic, as, theoretically at least, the rich man finds it easier to get into prison and the poor man into the Senate, and as the industrial arts become more universally diffused, we discover a species of class consciousness and snobbism affecting the fine arts.

Such a condition may be symptomatic. It shows in the insistent cry for more cultivation of personality and self-expression that goes up just where humanity crowds closer and closer into vast barracks, subways, and cinema "palaces" and has its mind molded in mass formation by a few newspaper agencies.

Whatever the cure may be for such sociological maladjustments, the only remedy for the fine arts would seem to be a healthy contact with the industrial arts; a contact free from any danger of an amorphous fusion—a contact that quickens and fertilizes both fields.

The parallel is not exact, but in those creative periods upon the greatness of which all instructed opinion is agreed, such as sixth and fifth century Greek, twelfth and thirteenth century Gothic, fourteenth and fifteenth century Italian, we see art coming naturally to fruition. After long periods of rest, of gathering strength, and finally of intense and concentrated effort on the part of whole peoples, each age has brought forth its art alive. Spiritual, emotional, and intellectual qualities in the great artists, robust delight in human things on the part of the craftsmen, all were driving collectively, if unconsciously, toward their goal. Thus the fine arts of the creative periods had their roots in the healthy soil of the common crafts and industries. Great artists graduated from workshops after long apprenticeship, and they never lost touch with their poor relations. They were as ready and as competent to design a necklace or a costume, as a fresco or a church. And they drank in beauty with their eyes in

whatever direction they turned, for ancient cities presented an abundance of living art of which we can but faintly conceive to-day. Art appreciation was not taught by the pedagogues of those ages because the child absorbed it so soon as its eyes were open.

The comparison is not altogether fair; the Industrial Revolution has intervened. But to-day it requires no seer to discover that things are far otherwise. Too often our art is incubated—in places it is even synthetic, very rarely indeed is it informed with the joyful and careless spirit of the creative artist or craftsman. By and large the world of man is not yet dangerously beautiful.

Not the industrial revolution alone but the lack of sincerity in the arts of the last century is responsible for this present dearth of beauty. It is arguable that people get the sort of art, like the sort of government, that they deserve—usually their parents are partners in the crime. Thus if art to-day lacks faith and conviction, if it is too often clever, arrogant, censorious, or too erotic, despairing or obscure, we have to thank the smug complacency of an earlier generation. Much of the willfulness of the last two decades was not only excusable but necessary; yet now the repressions are lifted there is no excuse for the perverse creations of undisciplined egotists. Their works, the plastic counterparts of the tiresome drivel of certain writers, are generated by the same infirmity. They subside, but still prevent a true appreciation of the efforts of genuine artists, in whom the spirit of change works powerfully upon traditional forms.

Happily these diversions have had one beneficent effect. Relieved of the attentions of doctoring aesthetes, the industrial arts have developed at a surprising rate. In this field intelligence was directed toward the production of efficient utilities, from bath-taps to automobiles, and it was productive of a certain beauty. Only a faint glow compared with the radiant work of the mediaeval craftsman, but if its spirit is much diluted, it is much more generally distributed.

To-day, though we cannot hope for an emotional thrill when we purchase an umbrella, or a teapot, or a bureau, or anything made in quantity, we need no longer fear to be shocked and dismayed as we should have been by similar utilities in the Mauve Decade. Since that era the advance has been remarkable. A few more years of such progress and our descendants may recapture something of the old spirit. Children may again react as naturally to beauty as they did

before the industrial revolution. The art teacher may be extinct. Great artists may be born, and they will not be so consciously artistic as they are forced to be at present. Their fine choices will be more instinctive, less painfully reasoned. Much of the energy that we spend in recovering a little of our lost heritage they will be able to divert into creative channels. Instead of becoming aesthetic eremites, taking refuge from the fret and wear of ugliness in everyday life, or stung into violent protest by its droll stupidity, they will be spiritually and physically in better shape to help solve, in nobler ways than ours, the problems that every civilization of itself creates. The leisure that industry must supply will be employed in making cities rival in beauty that one decreed by Kubla Khan in Xanadu. And then, perhaps another of Coleridge's lines, "O Man, thou vessel purposeless, unmeant!" will lose much of its force.

However that may be, much water must flow under the bridges before it comes to pass. Industrial art has at its core something that may yet reduce it to an uninspiring monument to man's cupidity. It is that the force behind it is too often avarice. Art and Business always will make uncomfortable bedfellows, and even the industrial artist occasionally longs for a separation. If the manufacturers gave a frank answer to the question, "What does industry expect of art?" it would be, "Hispano Suizas, sables, Coral Gables, obese bank accounts." It is the obtrusion of this spirit that lends excuse for the divorce between the fine and the industrial arts. The latter must go out into the market place to scream their virtues and let hucksters cheapen them; and it is one test of great art that it does not advertise.

Without doubt, at the time they were produced Persian pots, Tanagra statuettes, or Gothic metalwork were not the holy relics they have recently become. They too went out into the market place, but their makers did not expect to pay dividends to a lot of shareholders.

In an industrial age no one can find fault with the manufacturer who very rightly tells the designer of his products that they must sell. He is not producing industrial art for pure love of the game. Yet the manufacturer cannot afford to forget that even in the industrial arts the spirit counts for something, no more than the artist can afford to ignore the sentiments of his fellow men. Unless the artist tries to function naturally and create only when the spirit is in him, he is likely to remain impotent. Unless the industrial arts borrow

a little of the Promethean fire that burns in the soul of truly great art its promise will never be made good. This by no means implies that their rôles are similar. Industrial art must always accept a secondary and lower rôle. It will be concerned with material things —made by the machine or by subdivision of labor. Art should be concerned with things of the spirit. Let us remember that the real artist is always heaven sent—but there are others who claim divine credentials, and if industry lacks a soul, there are artists who try to substitute emotion for solid effort.

What is needed is the closest coöperation without loss of identity. The industrial arts must remain content to admire, but not imitate, the fine arts, and the latter must become worthy of that admiration. Until that happens neither can function freely and healthily. It will take time, and great craftsmen will be needed as liaison officers; but when such coöperation has been established we shall see art imparting a finer polish to industry, and industry knocking some of the conceit and affectation out of the fine arts. We should not be impatient if it takes several decades, for both art and industry have a big job ahead if humanity is to enjoy all the gorgeous benefits that should flow from both activities.

The fine artists might recall these last words of Mrs. Lutestring's second husband in Shaw's "Back to Methuselah": "It has taken me fifty years to learn my trade and to paint all the foolish pictures a man must paint and get rid of before he comes through them to the great things he ought to paint. And now that my foot is on the threshold of the Temple, I find that it is also on the threshold of my tomb."

For the industrial arts, Llewellyn Smith has some advice which applies. "They must be content to do what they can. Work deficient perhaps in inspiration, but at all events sound, useful, conforming to technical and economic conditions, perfectly fulfilling its functions, and, if lacking in the highest form of expressive beauty, still comely and lovely to the eye." That such advice is still needed by both fine arts and industrial arts may be seen by a few casual visits to current exhibitions. Of the two, perhaps the fine arts need it most.

As regards the latter, at almost any exhibition there are still to be found too many artists clinging to forms that were germane to art when its chief function was the promulgation of ideals and ideas to

intelligent but generally illiterate communities. They miss or ignore the fact that the telling of a good story is not the whole secret of Benozzo Gozzoli's power; they also ignore the advent of the cinema. On the other hand, there are artists attempting to depict subjective moods and convey ideas that demand both the clarity and the nuance of a flexible and expressive language—not to mention the cerebral equipment of a Dostoievsky.

The result is that, despite the treasures preserved for our instruction in the great museums, and the promising agitation among the more vocal artists, the average art show is unconvincing, and the average person yet remains to be convinced. It is no exaggeration to say that a continuation of such indifference would be a tragedy. Civilization is already sufficiently mechanized and soulless. But the danger is there. Art can never die, but it may languish for decades. And the more powerfully industrial art attracts the suffrage of the masses, the less susceptible they may become to the great message of the fine arts.

Yet it seems to me that here and there industry is already generating an antitoxin to its materialistic fever. It is possible that it may save itself, and like the Robots in Capek's play, eventually become possessed of a soul.

At a recent exhibition of art and industry (to obtrude the pathetic fallacy) I realized, shocking as it seemed at the time, that the most moving thing for me was a great steel safe. Contrast, no doubt, had much to do with its appeal, but amid the medley of forms in bronze and marble, colored pediments, frescoes, metalwork, and glass, its utter honesty and fitness struck a massive and melodious note not far removed from beauty. Perhaps it was its remoteness—a quality it shared with the archaic sculptor and the primitive painter—that invested it with an integrity so many of the fine art products did not display. Whatever the cause, there it stood, pure and undefiled—a warning to the artist and a beacon to the industrial arts.

THE CONTRIBUTION OF PHYSICAL EDUCATION TO THE EDUCATION OF THE COLLEGE STUDENT*

By JESSE FEIRING WILLIAMS, M.D.
Professor of Physical Education, Teachers College

WE ARE gathered here to-day to dedicate the Women's Building. At best it can be only an awkward gesture that we make. Words never substitute for deeds, and the faithful work of those who have builded here outstrips in power and direction any words of ours to express its worth. Why try to match with symbols of pride, zeal, or enthusiasm the vision of those who conceived this building; the patience, courage, and high purpose of those who directed its construction; or even the skill, strength, and pride in work well done of those who labored to fashion the raw materials of nature into this edifice of man?

But in a larger view there is ample reason for the efforts we make. Words alone avail to express the purpose that may call the women of the college to dedicate themselves to the causes and achievements which beckon as they come up to the university. Here is no idle dream; this is no vain hope. Within this building, personifying its purposes, plans, and outcomes, is enshrined a lovely womanhood. What could be more fitting than the dedication of the women of this college to the realization of their best, the fulfillment of their possibilities, the accomplishment of their goals? Only in this way can a mere building come to have meaning.

When a biologist places upon the stage of his microscope the thin sections that show the development of the cell, he has upon that bit of glass one of the wonders of the world. There is the picture of vast changes in minute detail. The biologist looks and wonders. He sees the shift of tissues from one part to another, and follows in successive sections the outcomes of great pioneering projects in protoplasm.

* An address at the dedication of the Women's Building of the Oregon State Agricultural College, Corvallis, Oregon, on May 7, 1927.

When a university receives upon the stage of college life a student enlisted in the enterprise of education—another name for development—it takes unto itself a great adventuring in human life. There are to be vast changes, but they are not subject to microscopic analysis. The university prepares carefully for this experiment. It arranges curricula, assembles staffs, and erects buildings. As the years pass, and generations of students and faculties come and go, these devices of the institution are touched by what is known as the Spirit of the College. Does not the Spirit that broods over a college say, as it watches the parade of possibilities upon the stage of university education, "Here is a bit of life! What can be done to help that life realize its potentialities?" As the Spirit of this college comes to find a home in the Women's Building, will it not croon softly to itself of the future for Oregon womanhood?

There are remarkable differences as well as similarities between the laboratory of the biologist and the workshop of college life. The worker with the microscope observes changes, but he is powerless to alter them. Embryonal cells march in majesty across his stage to form the structures and to shape the functions which ultimately he must describe. But in the laboratory of university education these early biological outlines have been laid. The marvel in the college student is not the organization of tissues, nor the interdependence of organs, but the nascent possibilities to be changed into realities in human lives, the development of new powers, sound guides, and worthy standards. "There," says the biologist, pointing to his slide, "is the *record* of a great transformation." "Here," says the university, as it welcomes the student, "is the *promise* of great transformations."

My theme, to-day, deals with the contribution of physical education to such transformations, with the gift it promises to the education of the college student. This is no simple theme, although some would not appreciate that the contribution of physical education is anything worth talking about. Guided by popular beliefs, its contribution could be stated in terms of certain physical exercises, considerable vocal gymnastics at games, and a curious mixture of terpsichorean stunts with heliotherapy. To some persons physical education is a fad, a new-fangled idea, a frill upon the educational garment that in many ways seems to lack the wearing quality, the

fastness of color, and the utility that characterized the product of the little red schoolhouse two generations ago.

To justify the erection of this building that we dedicate to-day, to warrant your coming here, to excuse my trip across the continent for this occasion, physical education must be more than an exercise, more than raucous sounds, more than futile, even though aesthetic, movements.

The first physical educator was the parent who taught his child to throw, to jump, and to climb, and, in company with others, instructed him in the standards of the group to which he belonged. Savage initiations, as a part of the introduction to responsible manhood and womanhood and to social standards, have always been taught by the elders to the young. Along these lines of effort flow the source and purpose of physical education: to train the intelligence, to develop the organic systems, to master certain fundamental skills inherent in the individual's nature under the force of the social requirements; and to shape the young to understand, interpret, and uphold the standards of conduct approved by the group.

Little is known of physical education in these earliest days of savagery. There are no chronicles to tell us the complete story. Scattered bits of information are revealed by the explorations of geologists and anthropologists; the life activities of primitive peoples to-day help to portray the picture of this early education, but it is all partial, limited, and only in outline.

The plain truth of the matter is that little is known of educational beginnings previous to the time when the Greeks made their contribution to the world. We go back to the Greeks to explain many things, and particularly to understand the relationship between physical education on the skill side and physical education on the side of the social education of the citizen. We do not stop there, however. The remarkable conception of Greek thinkers who related gymnastics and music for the development of the individual; the altogether different notion in Rome that viewed physical education as an agency for military purposes; and then later, the withering hand of asceticism laid upon the physical body of man,—all represent variations of the same effort that surged through primitive man, driving him to train the young to meet social needs. When the philosophy of the day was harmony and beauty, when civil power through military

conquest was the *summum bonum,* when the goal of man's effort was to reach God by denial of life, and when the vagaries of St. Augustine's early days pointed out the handicaps to spiritual excellence, physical education was turned or twisted this way or that to serve the needs of the group concerned. Even Vittorino da Feltra at Mantua, in the year before America was discovered, incorporated in his school, "La Casa Giocosa," the ideas of the group of noblemen that influenced his thoughts and acts.

The contribution of physical education in any situation, at any time, or in any place is to be measured in terms of the ideas that control it. This has always been so. The conspicuous, nationalistic developments of physical education illustrate the force of political, economic, and social influences shaping its contribution. Germany at the mercy of Napoleon, lack of unity among the German peoples, and the force of feudalism in their social institutions are the conditioning factors that controlled physical education in Germany during the nineteenth century. Physical education, an aspect of education engaged in the procedure of handling human beings, must use methods that conform to prevailing ideas. Thus, one understands the drill room flavor of Swedish gymnastics, and sees in the military character of Swedish physical education the loss of Finland and the Alan Islands to Russia, the abdication of Gustavus IV, and the blockade of Swedish ports by British battleships.

In simple agricultural communities free from the constant threat of war and the ambitions of kings and princes, the life activities of the people themselves furnish a kind of motor training. There is no need of mass drill; occupations serve in a limited way the developmental needs of the people. What such simple living lacks in enthusiasms, in joyousness, in personal and social culture, it makes up in part by the rigor and hardiness of life. But with the coming together of peoples into cities, the organization of state and national life, the migration and rapid communication of citizens, a set of influences and associated ideas begins to shape physical education in relation to the needs of the time and place.

For the first one hundred and twenty-five years of our nation's existence, the people were engaged in a frontier type of life. Establishing independence, reclaiming a wilderness, building the physical body of the nation were the chief ends. Conquering a continent

called for resourcefulness, initiative, leadership, and independence in the citizens. In these years, life in the United States was free from the fungus of feudalism. We have been opposed to military developments; even the fervor of 1918 was unable to establish universal military service.

Nevertheless, European nations, with their ideas of nobility, of discipline for the masses, of privilege, have been too frequently our examples. The influence of a pseudo-nobility and war captains, posing as men who knew how to rule, had to compete with the ideas of the common people and their notions of democracy. It was the ideas of John Quincy Adams versus those of Andrew Jackson.

The third decade of the nineteenth century saw sporadic efforts at physical education in the work of Partridge, with his military academies, the German refugees, Beck, Follen, and Lieber, the manual labor movement, and the calisthenics of Catherine Beecher. But the nation was primarily engaged in agriculture and its allied affairs. The energy of the population was poured out in wresting from nature a livelihood. It was a grim business, and no time was left for leisure and little for education. The ideas of personal development and self-expression had little opportunity for realization.

With the industrial revolution came remarkable changes. New peoples coming into the cities found the church and the private and charity schools unable to meet the educational needs. "In 1833," says Cubberley, "it was estimated that one-eighth of the total population of New York City was composed of public paupers and criminals, while the city had one saloon for every eighty men, women, and children in the total population." The strict moral code of the rural districts, living remnants of Puritanism, broke down in the cities, and the political ideals of those "fit to rule" fought in the open against the claims of the common man.

After the Civil War, the industrial revolution opened new and varied economic opportunities which were eagerly grasped, with the result that in the latter half of the nineteenth century the distribution of the population in rural and urban communities was altered profoundly, and the factory, instead of the home, became the center of vocational life for many people.

The factory system and urban life changed the social groups in many ways, so that from time to time people questioned concerning

the need of proper physical development. Consequently, at the sessions of the famous Physical Training Conference held in Boston, in 1889, the outstanding view regarding physical education was that its purpose was corrective rather than developmental. Moreover, the Conference was not a meeting of specialists in physical education alone; it was also attended by educators, and these school people set up a number of conditions that reflected the ideas they had concerning the function of education. In effect, the school men proposed that any physical training that was to be taken into the school must require very little time, must be inexpensive, must not demand specially trained teachers, must conduct its activities in the classroom, and must not require equipment.

In brief, this represents the beginning of physical education in the schools of the United States. No study was made of the kind of activities boys and girls need for developmental purposes, nor of the uses to which physical activities can be put in the setting up and acquirement of standards of conduct. The schoolroom stoop and physical exercises loomed large as the problems. A ready cure was offered for a very complex disturbance, with the results which usually characterize the use of such unscientific methods. An antiseptic request will always produce a sterilized program.

This type of physical training (for it was nothing more than a training procedure) never caught the imagination of boys and girls. The child was asked to go through an innumerable number of stupid "posturings" and his whole being was calling for a kind of activity based on the neuron connections already set up and organized in his nervous system. Consequently, from time to time, youth took into its own hands the business of physical education. In colleges and high schools, teams were organized for the playing of games, meets were held with other teams, and soon the institutions represented found themselves involved in disputes, financial arrangements, and real embarrassments. Not yet appreciating the place of physical education in the education of young people, school men set up faculty advisors, or managers, to control an activity with which they had little sympathy and no understanding.

Thus, quite characteristically, examples of two types of physical education in the school may be found. One is composed of artificial exercises that arose in response to a group of ideas wholly foreign to

the traits, characteristics, and needs of American boys and girls, and that are justified by those who propose them on the grounds of correction of defects, acquirement of health, or promotion of military discipline. That such exercises, given *en masse,* do not correct the defects which require accurate diagnosis and specific, individual treatment, that they are not conducive to health interpreted in the light of present-day available knowledge, and that the discipline they promote is that of the barracks, is not yet sufficiently understood by educators.

The other type is represented by the extreme development of competitive athletics that arose as a natural activity of youth, stimulated by the commercial and advertising values of games, and without the educational leadership which such an activity should attract. The early days of sport in America bear the marks of the gambler, pugilist, and "plug-ugly." Some of its present-day manifestations reveal these early scars. Games have been continued, however, not so much because educators desired them as educative activities, but because those in control were helpless to prevent them, or because the leaders saw in them an advertising asset. It has rarely occurred to educators to use physical education for worthwhile educational goals. If one wished to teach children the value of international good-will, one would not select as a teacher a believer in war. If one desired to teach science in the schools, one would not place the children under the guidance of an anti-vivisectionist or an anti-vaccinationist. In the teaching of school games, however, the teacher (coach) is selected frequently, not because of his educational qualifications but because of his reputed ability to turn out a winning team. That he may be a cussing, raving, roaring type of bully makes little difference, because, too frequently, the goals are commercial rather than educational.

In the light of the experience of other nations, and the forces of our own national life, physical education to-day in the American college is being subjected to careful analysis. Educators are asking questions concerning aims, objectives, procedures, and results of its program. Quite clearly the contribution of physical education to the development of the college student is conditioned by the answers to such questions. Those who are interested enough to inquire will find several distinctive qualities in the mood that characterizes those who deal with the problem.

In the first place, science is being invoked as never before. There is a passion to get at the facts, to know the truth. Traditional procedures are being overturned not for the purpose of indulging in mere iconoclastic revelry, but to examine their bases, and to evaluate their claim to support. Health practices based on superstitions are questioned, and their counterpart among primitive peoples helps truth seekers to understand the almost universal appeal of the magical and mysterious. As a result this mood is unwilling to tolerate the superstitious, whenever science has something to report. Students of history remember that throughout the centuries fetish power has always been cheap. Nothing is easier than thinking against the facts! Moreover, magic has always been economical down to a certain point. St. Simeon Stylites on his pillar, seeking,

"The meed of saints, the white robe and the palm,"

could deny the physical, could escape the facts, could seek his kind of excellence. Such was fetish power and magic. It cost nothing; passers-by could be healed by merely touching the garments of such saints. In such an atmosphere no university could afford to construct a costly building devoted largely to the physical activities of students, when an occult force, at no expense, could be followed as a pathway to excellence. Consequently, in the great universities of the Middle Ages no provision was ever made for the physical education of the students. Abelard, at Paris, gathered about him great numbers of students, but education, whether in theology, law, medicine, or philosophy, served occult and magical masters.

How far we are removed to-day from the fettered existence of the cathedral schools of France and Italy! Man's place in nature, dignified, worthy, acceptable, stands free from the tyranny of superstition and magic that challenged Luther, Montaigne, Locke, Bacon, and Spencer. And yet this scientific spirit must still contest with vestiges of scholasticism. Scotus Erigena rules no university to-day, but his spirit lurks in the academic mind that frowns on play, deprecates recreation, and leads to a narrowness in university education that sacrifices the physical for so-called mental gains.

In the second place, physical education is emphasizing to-day as never before the unity of mind and body. This view sees life as a totality. Correct in their appraisement that the cult of muscle is

ludicrous, those who worship at the altar of mental development too frequently neglect the implications that should follow from thorough exploration of the facts of the social inheritance. "Socrates with a headache" is always preferable to a brainless Hercules, but the modern mood in physical education seeks to evaluate the physical in terms of mental and spiritual worth. It is the plain truth of the matter that no individual, no community, no nation can depend upon any one aspect of life for the whole of living. Deification of the physical, mental, or spiritual alone leads to disaster.

In A.D. 410, the barbarians sacked Rome. Alaric fell upon a slave-ridden nation and rent it asunder. Agricultural Western Europe went to pieces. The people were disturbed because Christianity, conceived by them as a magical force, had not been an effective barrier against the barbarian. In the failure of the Cross to protect the citizens from the horrors of Alaric's wrath, the church turned to Bishop Augustine of Hippo. He answered by defending the Civitas Dei which had taken the place of Civitas Romae. Physical education in its modern mood seeks no single justification for its service to man. Draft boards may reveal unparalleled physical deterioration in our young men, but no modern physical educator, sensitive to the mood of the profession, will hurry from Hippo to Rome to proclaim the superiority of Civitas Corporis over Civitas Animae. Neither the body nor the mind alone supplies an answer to the vexing problems of modern life. Science has taught too well! Physical education views man as a unity. Not yet knowing the possibilities of the physical, it follows Aristotle in declaring also that we shall never know until the physical finds its true function as instrument for the spirit. Materialism consists not in frank recognition of the physical, but in assigning it to a spurious supremacy. "There can be no materialism in utmost emphasis upon physical education," writes MacCunn, "so long as 'Body for the sake of soul' is, as it was with Plato, the presiding principle of educational action."

This recasting of the scene for physical education is no superficial move but a tendency of deeper growth. It holds that we need to aim higher than health, than victorious teams, than strong muscles, than profuse perspiration. It sees physical education primarily as a way of living, and seeks to conduct its activities so as to set a standard that will surpass the average and the commonplace. There is in such

a view something of the loftier virtues of courage, endurance, and strength, the natural attributes of play, imagination, joyousness, and pride, and through it all, the spirit of splendid living,—honest, worthy, competent.

In the third place, nothing seems clearer than the inevitable character of the forces shaping the place of physical education in American life. While past generations may have thought of it as a rehabilitating procedure devised to serve restorative and therapeutic purposes, the steady march of social forces shifts the emphasis. The swing of the population to the cities, the increasing tendency to industrialize society, the social and political ideals of the citizens, demand full recognition in all plans for education. American life is extremely complex, and yet the main currents are well marked and clearly defined. To a people with social and political beliefs which express a faith in and desire for freedom, liberty, and individual development, there has come an unprecedented material prosperity. Out of this tremendous economic development has resulted an unheard of amount of leisure for great numbers of the people.

The increase of leisure time does not itself guarantee richness and fullness of life. People may have a great deal of free time and not know what to do with it. The tremendous financial success of commercial recreation indicates, however, leisure time opportunities and some of the interests of the people.

It must be clear that the only recreation that rebuilds is an active kind. Such active recreation may range all the way from the minor arts to the major ones; but if there be a saving grace in any of them, it will come through the opportunity for the individual to lose himself in the world of the activity that he pursues. This may be in the dance, in painting, in camping, in writing, in a hundred activities that are carried on, not for any economic returns, but for the mere love of the thing.

The craftsmen of two generations ago in this country, as in some few places in the world to-day, got joy out of the work they did. To-day, too frequently, the industrial worker in shop and factory works only for the monetary return, and as soon as he is free from the demands of the schedule he is eager to get away, and then for him, if possible, comes the chance to do something that provides satisfaction. He works to earn money with the hope that in some way

he can buy happiness. He has never had a philosophy to help him understand that happiness cannot be bought, for like beauty it comes from within and cannot be acquired from without. Thus the happiness that the industrial worker finds is likely to be the kind catered to by professional and commercialized forms of recreation, and these, too frequently, have been associated with characteristic and lewdsome forms of vice. Stevenson is reported to have said, "One may travel over the whole world in search for beauty and never find it unless he has it with him in his heart."

But to speak of joy of work when the whole process is the repetitive task of placing nuts on bolts, or throwing levers, or stacking trays, or watching for a thread to break in the rapid and phantasmagoric evolutions of a textile machine, is to call for that species of unbelief that greeted Dr. Eliot's address on the rights, duties, and privileges of the manual laborer. Cabot's analysis of the main features of this problem indicates clearly that the work of the industrial laborer is lacking in those qualities so essential for self-expression and self-realization.

In this service to leisure time education, physical education in the college must contribute skills, attitudes, and appreciations that will seek constantly throughout life for wholesome expression. In short, this contribution must continue into life after college days are left behind. This view requires adjustment of many traditional practices, but it denies that it is utopian. Education, during college years, for the proper use of leisure time may constitute the fence that will save many who now fall over the cliff of social or biological disaster. Dramatic rescues always thrill. Rushing to the base of the cliff with an ambulance to pick up those who have toppled over, because of improper living, degenerative diseases, social maladjustments may be dramatic; it is hardly educational.

The imperative necessity of viewing physical education in relation to fundamental human problems forces itself upon us continually. Hence, it should be kept clear that physical education is a form of education. It is a way of life. Its activities are engaged in because of the satisfactions to him who participates. To him who enters the lists of its activities there will come as by-products health, skills, good postures, strength, endurance,—the many results so frequently sought as direct ends. Physical education then makes its contribution pri-

marily as an attitude, a way of living, a point of view; only incidentally is it a technic, a performance, a particular skill. Given the former, the latter incidentals are acquired readily; without the former the latter are rarely secured or fall early into disuse.

One last word! There will always remain in any condition of society the need of physical vigor and fine personal character. The day of democracy and the international spirit goes back to tribal practices in these things. Our civilization must ever rely upon these bulwarks.

If perchance those hardy pioneers who trekked across the prairies and mountains to found this great state should look down upon this scene to-day, what would they ask that physical education contribute to our women? They would wish them to be physically strong, surely. Paraphrasing an old French philosopher, they would remark, "It is not a soul, it is not a body that we are training up, but it is a woman." From out the dim past would come another voice speaking. "The weaker the body the more it commands; the stronger the more it obeys." Oh, glorious girlhood, may these tumultuous years find you growing strong!

They would ask, also, I am sure, that you have courage and self-reliance; that you be able to say, with confidence,

"I am the master of my fate,
I am the captain of my soul."

Barrie tells of the circumstances under which Henley wrote those lines. "I was a patient," writes Henley, "in the old infirmary of Edinburgh. I had heard vaguely of Lister, and went there as a forlorn hope on the chance of saving my foot. The great surgeon received me as he did and does everybody, with the greatest kindness, and for twenty months I lay in one or other ward of the old place under his care. It was a desperate business, but he saved my foot, and here I am." Yes, there he was, singing during the "desperate business,"

"I am the master of my fate,
I am the captain of my soul."

It seems clear to me that these voices from the past would ask our women not only to be physically strong, not only to be brave, but also

to be good sportsmen. To follow through, to finish the task, to play the game—not only on the athletic field, but everywhere in college and in life—these shall be their aims. No doubt remains of the right of those pioneers to speak to us to-day. The strength and physical hardihood of our forefathers, their courage and self-reliance, and their faithfulness to high causes and noble ends remain our common heritage.

The biologist looks at the sections of the cell upon his stage and wonders. The university looks at the young folks coming to its doors and builds. In this enterprise, physical education seeks to serve.

HEALTH EDUCATION MATERIALS FROM THE PSYCHOLOGICAL VIEWPOINT

By LAURA ZIRBES
Lecturer in Elementary Education, Teachers College

THE social significance of health education has become widely recognized and generally acknowledged. This general attitude of approval and promotion is no matter of mere circumstance, nor can it be laid to any simple cause. Among the factors which have brought about the prevailing attitude toward health education are the following:

1. The great increase in knowledge of the causes of ill health made possible by laboratory research.

   The great majority of people formerly believed that disease and affliction were visitations of Providence, or, if less religiously inclined, matters of ill luck or human malevolence. Scientists who had the temerity to investigate into the causes of disease often had great difficulty in getting their ideas accepted by their own colleagues, and the populace stubbornly refused to consider any theory which conflicted with cherished beliefs and popular convictions. The closed-mindedness often hampered scientific workers, delayed their work, and prevented the application of knowledge to the control of disease.

2. As evidences of the soundness of certain fundamental theories about disease multiplied and the possibilities of lessening human suffering and misery were demonstrated, active opposition dwindled and eventually the tide was turned.

   It is interesting to note that the public was willing to avail itself of *cures* long before it accepted specific *preventive* measures and that public health measures which run counter to personal comforts and conceptions of personal liberty or parental authority are still mooted questions.

3. Propaganda in various forms has no doubt contributed to the

present favorable attitude toward health and health education. Spectacular statistics, not entirely disinterested advertising, and organized efforts of public-spirited social agencies have done much to awaken the public conscience to its responsibilities in the matter of health education.

The "materials of health education" discussed thus far have been operating chiefly for society at large. They have been effective in the degree that they were psychological. The psychology of the propaganda method needs no exposition.

Just as the good Samaritan, the miracle worker, and the angel of mercy have been accepted for their good works, so the benevolent interference of certain health agencies at home and abroad has been tolerated and appreciated because of its service to humanity. While such agencies do educate, their function is not primarily educative but ameliorative.

The fear motive has made people willing to learn how to avert pestilence and plague, especially when danger was imminent; but while epidemics, like accidents and public catastrophes, may and should be turned to account, it is hardly rational to wait for such phenomena or to depend upon the fear motive as a substitute for health education.

The positive emotional appeal has led to the adoption of health measures and the expenditure of public and private funds in the interest of health, but the emotional appeal has as often defeated and hampered health measures which are after all primarily legislative and only incidentally and secondarily educative. Fundamental health knowledge *per se* does not produce or guarantee health and has not until recently been eagerly sought for, but immediate practical implications in their bearing on personal affairs and interests find an audience which is all too uncritical and receptive.

Nostrums and panaceas have made more fortunes than cures because the untutored public has the will to health, and invests uncritically in what appears to be an easy, pleasant means of attaining health without risk.

When the public conscience is aroused on any vital matter of general concern, it usually exercises itself in protecting the young and helpless. Social agencies turn to the schools. Due to the enthusiasm and fervor of organized effort the attempts to introduce health into

the schools were often spectacular. The early work in health education used methods which would attract attention and generate enthusiasm on the part of pupils, teachers, and patrons. Such means are like most emergency measures in that the first flush of enthusiasm is hard to maintain. The inevitable periods of reaction after an intensive health campaign are evidence of the psychological inadequacy of measures of this sort.

If health education is to become an abiding concern of the schools, it must find more enduring means of establishing itself in the educational program. It must set up its serious objectives and select its materials and methods in the light of its aims. It must operate in harmony with psychological laws or fail to achieve its objectives because it has proceeded to organize its program and prepare its materials without reference to the ends to be attained.

This implies a thoroughgoing application of psychology to the whole problem of health education. The critique of health materials must therefore be twofold. They must be valid and true from the standpoint of scientific premises, facts, and recommendations involved, but they must also be psychologically and pedagogically adapted to the learner's needs, interests, and capacities. Just as psychology has been applied to good effect in the reconstruction of the so-called three R's and the textbooks by means of which they are learned, so health education materials must apply psychology to the improvement of the materials and methods upon which it is depending.

The cumulative effects of innumerable experiments have led to certain fundamental generalizations which apply to all learning situations. Numerous investigations have provided a basis for criticism and objective evidences of the need of it. Health education is no longer in the precarious position in which it must justify its ends and depend upon volunteer workers and personal enthusiasm for its promotion. It has been recognized as one of the major responsibilities of the educational program and as such must justify its means and submit its *outcomes*.

Further discussion will not be as productive as specific illustrative examples of the type of criticism which will improve the materials and methods of health education and augment the outcomes of health work in the schools. These outcomes should be measured in terms of the threefold objective of health education, viz.:

Health habits
Health knowledge
Health attitudes

The psychology which applies in the formation of health habits, in the acquisition of health knowledge, and in the development and inculcation of health attitudes will be taken up in turn on the following pages. Each discussion will be followed by pertinent quotations from the literature of health education and by constructive criticism.

HABIT FORMATION

The psychology of habit formation is constant and depends more on the psychological nature of the pupil than on the nature of habit. The first thing to do in applying psychology to habit formation is to investigate the learner's present status in the particular habits in question. This is the first thing done in arithmetic, in reading, and in language, and it should be in health education. Thus a teacher should find out in what stage of habit formation her pupils are before she begins the attack, for it may be a matter of initiating a habit, breaking down a wrong habit, or substituting one habit for another. In the same class the teacher must be conscious of individual differences, because there will be some children in whom a given habit is already formed, others in whom it must be initiated, and others who reveal the necessity for breaking down a bad habit by substituting a correct one. In other cases she will need to continue and check up on habits already rather well formed.

Habit formation is also affected by differences of background and experience and by the fact that the teacher has the child for so small a portion of the time. Many habits which are to be formed or reformed are exercised far more out of school than in school. What is the school going to do to augment the effect of the short control period in the school and to counterbalance the effect of possible wrong practice or lack of practice outside the school? The solution is to make the habit-work highly and scientifically efficient, to make the practice like the life situation and to refer to the life situation. If habits are to function in life, the child must see and make this connection.

This practice must be distributed psychologically. Teachers are apt to think that they can teach a thing and then expect the children

to know it, that they can initiate a habit by a campaign or drive, and that then it goes on by itself. Psychologically this is not inevitable. The habit must be reëmphasized at intervals so that if it should begin to lapse there is something to hold and reinstate it. To launch an individual well on a habit, as James says, it is essential to increase the frequency of practice and prevent exceptions. This practice should not be simple drill but varied forms of repetition which build up varied associations.

Furthermore, habit formation should be specific. For instance, very little improvement will be obtained by saying to a child, "You speak very poor English. I wish you would correct your English." But if a teacher makes the matter specific and says, "I have found these errors which you need to correct. I suggest this practice and shall watch to see how soon this error is eradicated," she may expect results. A specific attack on health habit formation will also be more effective if it is made personal with each individual child.

Another element in the psychological approach to habit formation is the use of positive methods and right suggestion. Negative methods and the possibility of wrong suggestions are illustrated by the following quotation.[1]

DO	Run across the street directly in front of or behind an automobile, a wagon, a car, or a motorcycle. Look both ways before you start, to be sure there is nothing coming; then go slowly.
	Get off a car until it stops; then face the front to avoid falling.
NOT	Steal a ride on a car or an automobile.
	Skate on dangerous ponds.
	Walk on a railroad track.
	Play with fire.
	Carry matches loose in your pocket.
	Hurry up a fire with oil.
	Point a gun or a pistol at a person, even in play.

Every one of these statements could be put into dynamic, positive form, thus making for habits of intelligent caution. As stated they

[1] Andress, J. M., *The Boys and Girls of Wake-up Town*, p. 126. Ginn & Co., 1924.

would tend to inhibit, but if separated from the single marginal injunction "Do Not" and read as complete statements, which their printed form suggests, their import is actually reversed. Psychology tells us that it is more desirable to correct wrong tendencies by substituting appropriate ones than by expending the same amount of effort in a negative attack.

Experiments in reading and spelling show that children who are made aware of their progress advance more rapidly. Why should not this be equally true of health education? In order to make children conscious of progress and aware that habit formation does something for them, they should see the effects of their own efforts. If children make their own individual progress charts or other records, progress becomes a matter of interest and concern. The conscious effort of the child aids in the formation of his own habits. A child, like an animal, will form a habit if he is put through certain paces frequently, but it will take many more repetitions than are necessary when the child's conscious effort coöperates in habit formation.

Another important factor is provision for satisfaction and dissatisfaction. Sometimes teacher approval is the sole satisfaction. Then, when the child changes teachers, the whole record falls because he has not been led to find his satisfaction in his own activities. Educators must be very careful to cultivate satisfactions and dissatisfactions that are inherent to the child's own health and welfare, and that are real to him.

The work of the health educator is, after all, building response tendencies in the child, and unless she knows how the child responds to the stimulus supplied she cannot hope for definite results. She must ask herself, "How shall I proceed, if this is the health habit desired and these are the principles of habit formation?" In the preface to Book One of *We and Our Health,* E. George Payne says: "The development of habits is the important task of the school through the fourth grade at least. But the development of habits depends upon clear-cut knowledge of the practices wished and a desire on the part of the child to realize these practices in his own life. These habits cannot be achieved in a roundabout way. The customary plan, therefore, of seeking to disguise the practices so that the child will acquire the habits without consciousness on his own part is worse than futile. It follows, therefore, that we are not concerned with magic, medieval

stories, symbolization, or any other indirect plan of procedure, however interesting it may be in itself. Neither are we concerned with mere knowledge of bodily functions as such, because such knowledge is not essential to the formation of health habits." [2] This statement is substantiated by Dr. Cobb in Book One of *Graded Outlines in Hygiene*: "The teacher must not forget that hygiene is to be taught in the lower grades primarily for the purpose of inculcating health habits, rather than teaching health facts. The lessons must in large part review the instruction given in previous lessons, until the child's attention to correct habits of hygiene becomes almost second nature." [3]

HEALTH KNOWLEDGE

The term "knowledge" is not as popular in elementary education as it used to be. Information, facts, and data are the terms now used, for they seem more concrete and suggest something which the children wish to know. The first thing to do in getting children to acquire knowledge is to select for their acquisition facts which are of vital, immediate concern to them now and not when they are twenty years older. In aiding children to acquire this information the usual procedure, which is to give the learner the generalization and then illustrate or trust that his experience will illumine the facts later, should be reversed. The educator who wishes to proceed psychologically should say to the child, "Here is the experience and here is an illustration. Here is what you saw. What do you draw from that?" That makes it possible for him to generalize and so make a part of himself the organization of his own experience instead of learning a rule or principle in isolation. The psychological method—the multiplication of concrete illustrations in experience and observation—is one which requires understanding and patience, for often the adult feels the need of a generalization long before the child does, and will be inclined to teach it to the child. But it is most important that the child come to the generalization by insight, that he, so to speak, be the discoverer of it. An attitude results from that process that never comes from the hand-me-down way of securing principles.

Health knowledge is acquired for life's sake and not for the sake of knowing a lot, and consequently the facts must be organized in a

[2] Payne, G. E., *We and Our Health, Book I*, Preface. American Viewpoint Society, 1924.
[3] Cobb, W. F., *Graded Outlines in Hygiene, Book I*, p. 114. World Book Co., 1923.

medium of activity or experience. Encyclopaedic lists of facts cannot be permanently acquired for they will not stick nor take form in a child's life. It is the child's purpose, design, activity, intent and interest that tie facts together in a way which enables him to hold them. Things learned by doing are quite different from mere verbal matter handed on by someone else or read in a book.

Unless health knowledge is applied to life situations it is likely to be buried in a single association. The best guarantee of the deferred use of knowledge is present use. For instance, if a child acquire information concerning water and it is not brought up in another connection and applied in another situation, it is lost sight of and will not come back ready for use on different occasions. And if the child is not given practice in using the information, there is the possibility that he will never use it of his own accord. Guided use is one step toward self-initiated use. Furthermore, broad associations are essential to broad functioning. If facts are to be related to many aspects of life, educators must plan to establish broad connections and to tie them to the individual's well-being in the school and the home. Cleanliness, for instance, must be taken in all its connections; otherwise it will function where the connection is seen and only there. This type of limitation is psychologically the outcome of narrowly or remotely associated knowledge.

These associations and realizations of vital relationships cannot be given the child ready made. A well-made outline is organization but it isn't the child-organization of knowledge. The child engaged in making an outline which may be only half as good, is living an experience which has more effect psychologically; the child engaged in making a booklet in which he uses and applies his health knowledge is engaged in organization. This is one way of holding his mind to thinking through and applying what he knows to some concrete form of activity. While "the child's continued interest in *doing* is the central theme of the health program throughout all grades," as stated in the preface of the Turner-Collins book, *Health,* still, as the authors go on to say, "In the intermediate grades, the first task is to answer the 'why' of these health habits and then year by year to expand the knowledge of the child. . . . The information material should be expanded with the natural interests of the child, to furnish the reasons which underlie the development of proper habits." [4]

[4] Turner-Collins, *Health,* Preface. D. C. Heath & Co., 1924.

ATTITUDES

Favorable attitudes accrue from satisfying experience. Attitudes are incidental to any experience and are the emotional aspect thereof. Positive attitudes may be nurtured by appreciation lessons but they come chiefly from satisfying emotional accompaniments of experience. This is one of the values of dramatics. Since the child loves dramatics, whatever is tied up with dramatics has that emotional tone and shares his love. Now if the things which the child loves and in which he is interested are tied with health activities, the development of indispensable attitudes is being promoted. It is also true, however, that unsatisfactory emotional accompaniment to an activity builds wrong attitudes and this truth stresses the importance of individual adjustment to secure right emotional tone. This occasionally seems a long way round, but as long as minds work in this way educators should set about making them work in the right direction.

In his *Psychological Principles Applied to Learning,* W. H. Pyle says, "The emotions are back of most of our activities, and the good teacher is one who inspires the child and trains him to get pleasure out of the higher things."[5] In a recent contribution Kilpatrick says: "A moment's reflection will show that while any one, child or adult, is engaged in any enterprise, he is not only responding 'focally' to the elements in the situation having to do with prosecuting the enterprise narrowly considered, but if the enterprise be sufficiently extended, he responds in addition 'marginally' in many attendant ways. He feels exultation as success attends. He grits his teeth when failure threatens, and he is determined to succeed. He likes and approves the conduct of his fellow-workers, or contrariwise he disapproves and dislikes. He finds his confidence in himself along this line growing or waning. He is 'making up his mind' whether to undertake anything else like this. In the end his enterprise succeeds or fails, and he responds accordingly to the various factors, particularly to the persons and programs that entered into the determination of success or failure. The single experience under consideration may not go far toward building abiding attitudes, but the aggregate of such experiences up to any moment of life will (working on original nature) build the aggregate of one's attitudes to that moment, and out of the attitudes so built will come life's decisions at that time. In

[5] Pyle, W. H., *Psychological Principles Applied to Learning,* p. 190. Warwick and York, 1924.

this influence on life we face, then, a most important consideration." [6]

To summarize, the psychology of attitude-building requires consideration and provision for positive attitudes at every step. Every experience has some feeling tone and by such slow increments abiding interests and aversions are formed.

Another aspect should be added to these essential considerations and that is the emphasis on incidental references to health in connection with all school activities. Since health is an aspect of the whole of life, it is indispensable that it be put into life wherever it really occurs, but the danger of the incidental approach is that certain phases may be left out entirely. There is a psychology of incidental teaching and the teacher must be made conscious of the need to analyze the situation and to apply the psychological stimulus required. It is not enough to say, "This incident has health implications." In her endeavor to analyze the situation the teacher must say, "This is a place in which I can make a contribution toward health education. What knowledge, habits, or attitudes are concerned? How will I conduct myself to be effective as a guide and to supply the psychologically right stimulus?" In order to make incidental instruction fruitful, psychological procedure must be employed to increase the efficiency of guidance. Occasions in which health habits may be affected, health knowledge impressed, positive health attitudes built, must be utilized to the full.

LITERATURE OF HEALTH EDUCATION

An examination of the literature of health education reveals the need of a critical survey. Certain tendencies in the development of material are not in line with recommendations of experimental educational psychology. Other materials reflect a more progressive trend. The limitations of this paper are such that the criticism of accessory materials can only be indicated. The annotations and criticism which follow are limited to health education texts.

The preface of a health text for a primary grade [7] makes the following claims: "We believe that the one best way to teach hygiene to boys and girls is by telling them stories. In a large measure the same thing is true for grown people too.

[6] Kilpatrick, W. H., "Some Educational Outcomes Yet to Be Measured," in *Contributions to Education, No. I.* World Book Co., 1924.

[7] Hallock and Winslow, *The Land of Health*, Preface. Charles E. Merrill Co., 1922.

"Teaching by story-telling (or story-observing) is used in the case system in law and the clinical clerk system in medicine—two of the highest developments of modern education; and both owe much of their value to the dramatic element, as well as to the concreteness which is involved. It was by experience, not by phrases and words, that the human race acquired its first knowledge of Nature, and it is by experience chiefly that the child learns to-day. A good story is an experience. The natural forces which affect Healthy Living are, we hope, personified in this book as the Greeks would have personified them. Wind and Rain and Sun were the teachers of mankind in its golden youth and in these pages they will teach our young people of the present day.

"A story is the best device that we possess for arresting the attention. If the lesson is to be fixed, however, it must appeal to an internal aspiration, to some motive which will seize upon it and make it vital. In the teaching of hygiene, this motive varies with different ages. For the middle-aged the avoidance of disease is a compelling force; for the youth community services may be emphasized. With younger children these things have no appeal. The Land of Health attempts a different note. These stories have the ultimate motive of vigorous, buoyant health as a condition of happiness; and happiness is, and ought to be, the objective of childhood."

This quotation is full of claims, statements, and assumptions. To accept them without reservation we should be compelled to consider certain other materials relatively ineffective and undesirable. To point out the weakness of certain assumptions and claims is not only fairer to other materials but necessary in the interests of health education. If the following questions and unfinished statements were submitted to a group of leading educators for completion and response, how much agreement would be apparent from the replies?

Is there one best way to teach the whole range of hygiene to boys and girls?
Is the same thing true for grown people or for any age group?
Is story-telling psychologically equivalent to story-observing?
To which of the following qualities do the case system in law and the clinical clerk system in medicine owe their value?
The dramatic element, concreteness, preservable records of actual experience, instances from which generalizations may be drawn, data on precedents.————————

Does it follow that, because the human race acquired its first knowledge of nature by first-hand experience with the "elements," stories in which these elements are personified will serve the same end with children of to-day?

Is it psychologically feasible to combine fabricated stories about obviously improbable events and fantastic tales with accurate information and material which is to be believed and acted upon in everyday conduct?

What are the qualities which make a good story?

The best device that we possess for arresting the attention is————————

Is it pedagogically desirable to arrest attention by a device and then press home a lesson?

In what ways are lessons fixed?

What motive or incentive is a compelling force { for adults? / for boys and girls? / for youths? }

(The following questions are based on the stories in the book from which this preface was quoted.)

Are fabrication, fantasy, magic, and personification the story qualities which appeal most to children?

Is the personification of abstract qualities and things an approved way of introducing children to the significance of these realities?

Does a moral or a health rule or law attached to a story improve the story or does it merely spoil the story for the child?

Do lists of fact questions at the end of fantastic stories gain or lose psychological advantage by being asked by one of the characters?

Does poetic license warrant the use of a rime by means of which a misconception is fixed because it is stated as part of a health law?

Are reading of allegorical stories about health and answering questions the types of activity which may be most safely depended on for health habits, attitudes and knowledge?

Does interest in the story guarantee interest in the health essentials presented?

Is the captivation of interest by artifice and device necessitated by failure to utilize more inherent incentives to educative activity?

How suitable are anatomical charts like those listed below in a book of stories prepared for children in the lower grades?

Highly magnified cross-section of the skin, internal view of thoracic cavity and respiratory system, the alimentary canal in position in the human body, the circulatory system in the hand.

How should the grade placement of such technical material and of chemical food analysis be determined?

Which is the better decision—to postpone the introduction of such didactic material or to simplify it and work it into a story in which mysterious

processes beyond the child's comprehension are attributed to fairies and the like?

Do those who respect the child's present interests and needs find it necessary to resort to fictions and subterfuges to secure interest and coöperation in health guidance?

Many of the questions which this book raises could be asked about other health education materials. Those who have had occasion to examine a representative collection of materials know that the book typifies a manner of adjusting health content to young children. The capable teacher is impatient of such condescension. The intelligent child often recognizes it and is repelled. The supervisor is convinced of the vital significance of health education but properly critical of materials which represent her choice and her recommendation.

Another health book intended for the same grades falls into many of the same errors but has certain features which are almost entirely absent in the book first quoted. Its questions are addressed straightforwardly to the reader and are accompanied by well-selected suggestions for activity. It wisely omits anatomical charts and makes lavish use of two-color pictures which compare favorably with the pictures in good readers and story books. It is like the preceding one in that it sets up a fictitious health land; it has the king of that land issue health commands; it uses personified foods and kitchen utensils, health elves, fairies and magic to dress up its health stories and invents weirdly symbolic names for characters who represent the failings and misdemeanors of childhood. Its preface stresses interesting activity and habit formation, and minimizes the significance of health knowledge for pupils in the lower grades. The only questions which this preface raises are those which refer to the allegorical form and mixture of fact, fancy, and precept.

Genuineness and absence of irrelevant fictions and fantastic fabricated places and characters in some of the books intended for the intermediate grades are in striking contrast to the prevailing tone of primary materials. The fallacy of the assumption that children suddenly achieve the maturity to warrant this transition has been exploded. The dearth of simple honest-to-goodness stories of real or at least plausibly natural situations has been stressed by such students of the interests of young children as Dunn and Uhl and the need is already being served. Health materials for primary grades have

missed a wonderful opportunity in failing to recognize this need. The content of health education for young children is full of possibilities for enrichment. The nature of health aims is further warrant for a new type of health material for the primary grades.

The avoidance of moral preachments and the postponement of technical knowledge do not force the acceptance of a fanciful story style as a sole alternative. The most hopeful sign of a realization of this situation may be found in a program which makes the textbook a matter of secondary concern in the primary grades and substitutes plans for significant class experiences and activities, in which books are consulted as sources of information and suggestion after the need of such information has arisen in the course of the activity. Health objectives are thus attained in *combination*. The *knowledge* is selected by the *interest* and organized by the *problem* in hand. The *attitudes* are the result of *insight* and contribute to motives which may be turned to account in the initiation of new experiences and in the development of health *habits*. The school by its natural lifelike organization duplicates the home and thus not only provides natural opportunities for habit-forming practice under social stimulus and school supervision but warrants the hope that some of the habits and attitudes will carry over from school to home because the two are so similar in organization and purpose. The child who sees others in his class drink milk daily comes to drink it with them as a matter of course. When the school departs from real life the whole matter becomes lifeless and formal, and artificial means of arousing interest seem to be essential.

The health materials for the primary grades should reflect the modern trend in primary education and emancipate themselves from the traditional assumptions and formal paraphernalia of busy work, didactic instruction, and stories in which the glamor of fairy lore is made to carry the whole responsibility for interest.

Some of the materials intended for the upper primary or lower intermediate grades show how some of the concrete first-hand experiences may be replaced by realistic story material which enriches and informs. One book of this sort is *The Play House*,[8] by Mary S. Haviland. The questions and suggestions at the end of each chapter, contributed by Emma Dolfinger, are a valuable addition to the text because they suggest group and individual activities, stimulate thought

[8] Haviland, M. S., *The Play House*. J. B. Lippincott Co., 1921.

and inquiry, lead to practical application, and summarize the important conclusions to be drawn from the narrative.

Many of the newer materials for intermediate grades emphasize knowledge. The older ones do not consider it essential to present knowledge in digestible form, nor do they provide anything but formal subject matter to be read and recited upon. The dependence on transfer of training is appalling. Newer materials seek to establish points of contact with the pupils, use illustrations which contribute materially to the educative values of the text, suggest problems and activities which not only make for purposeful reading and study but require reorganization of ideas, application of knowledge, and deepened insight into the fundamentals of healthy living. The intellectual satisfactions of finding out and seeing why are supplemented by those which lead to dynamic attitudes toward matters which affect personal health and social well-being.

The straightforwardness of such material and the directness of its method are characteristic of changed conceptions of the psychology of learning. The materials of health education are not improved by indirectness. Correlation, for some time very popular, too often establishes superficial relationships and depends on transfer of training for "things hoped for." The newer materials go to related fields and bring together from diverse sources the factors which can contribute to desired ends and bring them to bear, pointing out significant relationships and leading pupils to make practical inferences. When every subject does this for every other subject true interrelations are realized. Knowledge, attitudes, and habits may thus be most certainly integrated into the very warp and woof of life.

To quote from the preface of another text: "The demands of the New Health Teaching require the use of a large body of new subject matter and the elimination of all of the older anatomical and physiological material which does not apply directly to the problems of healthy living.

"Health is made to mean more than normal physical condition of the human body to which it is usually limited. Health Education should no longer have such narrow boundaries, but should be extended to include many problems which concern the mental and social as well as the physical welfare or well-being of humans." [9]

[9] Bigelow and Broadhurst, *Health in Home and Neighborhood,* Preface. Silver, Burdett & Co., 1924.

The application of the criteria presented in this paper should enable workers in the field to select materials with reference to their relative effectiveness in the attainment of health objectives. The critique should be useful in the revision of published materials and the improvement of those in process of publication. It should help teachers to improve their teaching procedures. It should aid in the progressive elimination of non-essential, uneconomical, undesirable, and unproductive materials and thus conserve publication funds for preferred materials.

Together with the recommendations of Dr. William S. Gray, Miss Marion Lerrigo, and the summarizing committees of the Chicago Conference [10] it should suggest definite comparative studies, investigations, and researches by means of which objective data on (1) the specific validity of questionable methods and (2) the comparative effectiveness of materials which differ widely but purport to serve similar purposes may be secured.

[10] Proceedings of the Chicago Conference of the American Child Health Association, June, 1925.

FINE ART AND LITERATURE IN HEALTH EDUCATION

By PHYLLIS RADFORD

Former Student in Health Education, Teachers College

INTRODUCTORY. Health education is the sum of experiences in school and elsewhere which favorably influence habits, attitudes, and knowledge relating to individual, community, and racial health.

In the minds of those who are giving serious study to the problem of health education in elementary schools, high schools, and teacher-training institutions to-day, there is a growing conviction that this subject of instruction involves a wider range of interests and activities on the part of pupils, and a correspondingly wider range of problems for the teachers, than any other subject or phase of the curriculum. Formerly it was believed that the fundamental essentials of health could be taught in one or two short periods a week by the use of a textbook in physiology and hygiene. That method is now considered almost valueless. To-day it is becoming more clearly apparent that health education involves all the hours of the day, and all the days of the week and of the year. If effective, it must be a continuous program. This is not to say, however, that it must be a continuously conscious or formal program; far from it.

In this discussion attention is called, not to the formal and direct health education in the schools, but to the informal and indirect instruction with reference to health that can be given in a very effective manner by the incidental contributions and applications from most if not all subjects of interest and study within the program of the child's education.

The definition suggested at the beginning of this statement makes reference to attitudes and knowledge as having relation to habits of health. Professor Thomas H. Briggs, in his recent teaching and writing, has called attention to the great importance of emotionalized attitudes as being much more effective in determining conduct than the intellectual elements which have received so much attention in the past, and up to the present time, in general education as well as in the programs of health instruction.

Comparatively little is known regarding the relative value of various devices and elements used for younger or older children in the teaching of health, but there are many who believe that fine art and literature have very important contributions to make in this field,—for the most part in rather subtle influences upon attitudes more than upon knowledge. In this article the writer presents

some tentative ideas and opinions regarding the help which may be given by art and literature in the programs of health education.

THOMAS D. WOOD
Professor of Health Education, Teachers College

IT IS the belief of several leaders in the field that health education can be considerably furthered by the use of works of fine art and literature. So far this seems to be a conviction only, unsupported by tests, measurements, or extensive experimentation; these are still to be developed. Consequently the work done on the subject is merely tentative, involving the culling of the pertinent from a study of types of materials, and obtaining the opinions of a few available experts as to methods of teaching these materials.

To make such a study complete there should be a thoroughgoing philosophical prelude. Treatises could be and have been written on the philosophy and psychology of aesthetics. That, after all, is at the bottom of the problem, and it would seem to be a very superficial treatment that does not consider it.

In the fifteenth century Benedetto Croce in his "Aesthetic" remarked: "One who enters a picture gallery or who reads a series of poems, having looked and read may go further; he may seek out the nature and relation of things there expressed. From aesthetes that we were, we have changed into logicians." A century later Piccolomini observed that many poets and artists knew and believed that they were aiding human life. At the risk of arousing the ire or the scorn of the "art for art's sakers" I would take something of the essence of these two ideas with the conviction that art and literature have a place in health education. They are far from being anachronisms when translated into twentieth century thought. But however patly the Renaissance may provide a theory of justification for the work, that period is virtually barren of artistic and literary materials to use in health education.

The first problem is simple of statement but not of solution. What is the effect upon health, of seeing or reading something beautiful? What works of art will provide a lift of spirit, a squaring of shoulders (figurative more than literal), or a more sane outlook? Are these effects momentary or lasting? Could they be catalogued accordingly? Obviously not yet. Nor can the apperceptive basis of an individual

be relied upon to be just the proper tinder for the spark. Plainly it is a study which at present cannot be tackled with exactness.

One recalls a recent cover of *Life*. There stands a ten-year-old youngster looking with awe at a magnificent sunset. "Gee!" he says in the caption, "That's so darn pretty I'd like to give somebody a sock in the jaw." It's rather a significant bit, the tremendous emotionalized zest created by beauty. Unquestionably there is a relation to health. Paintings and poems may on a small scale function like sunsets. And what is to be the upshot in the individual's behavior? Will it be achievement, day dreaming, or "a sock in the jaw"?

It is clearly in the realm of attitudes that art and literature have their greatest influence. Health habits and health knowledge are less directly affected by the arts. Attitudes are well recognized as potent factors in health education and character education interfused. Certain attitudes have come to seem desirable for physical, mental, and social health. In studying a fair range of paintings, sculpture, and literature, individual pieces stand out as suitable material to help motivate those attitudes or to contribute to health knowledge in some way. And so, rather than continue further in general considerations, we may go straight to usable materials, to "seek out the nature and relation of things there expressed."

It should be kept in mind that what follows is largely a matter of personal opinion, or at best conclusions arrived at after consulting four health education leaders.

ART (PAINTING)

To induce or increase the desire for a beautifully developed body and for a fine carriage there are countless paintings of fine wholesome nudes. But such a canvas as "A Girl in White" by Cecilia Beaux not only pictures an excellent posture but at the same time reflects courage and vitality. One of the attitudes which painting seems particularly well qualified to create is *joie de vivre*. Splendidly typical of just that is Sir Thomas Lawrence's "The Calmady Children," recently acquired by the Metropolitan Museum.

One can illustrate further: a positive attitude toward sunshine through contact with Van Ruisdael's "Wheatfields," or the checkered sunlight handled so well by Pieter de Hooch, or Monet's masterful handling of light; toward swimming, through the vigorous bathing

pictures of Sorolla Y Bastida the Spaniard. And it would be an impervious mind indeed which did not absorb content and a feeling for simple life from Inness's "Peace and Plenty."

Possibly there are paintings capable of motivating community health attitudes. For instance, the desire to improve living conditions and to be of service might be spurred by such diverse pictures as the "Cliff Dwellers" by George Bellows, and "The Good Samaritan" by Teniers the Younger.

An important attitude for racial health is the desire to care for children. Good mother and child pictures should have a place here. May Cassatt's work furnishes many fine examples. Her art was devoted almost exclusively to this subject and shows deep feeling and understanding. Medieval and Renaissance Italian art is out of the question for our special purposes, not so much because the subjects are largely Biblical as because the infants are anatomically incorrect. It is of course understood that the artistic importance or value of the painting is not being questioned, simply its place in health education.

Upon health habit formation art would seem at first to have little if any direct influence, but through feeling and attitude its influence upon conduct may be very pronounced. Such appeal and influence are well illustrated by the better type of health posters possessing real artistic merit.

In health knowledge art has a somewhat more definite place. Knowledge of old-time methods of food production is to be gleaned from Dutch genre paintings of farm and kitchen; also knowledge of general living conditions, of the ancient and medieval water supplies—fountains and aqueducts. These early works present openings for projects in history and sanitation.

ART (SCULPTURE)

Sculpture with its added dimension is probably a still more potent creator of attitudes regarding the development and health of the organism. There is nothing new in the idea that statues of Hermes, Diana, and Venus may stimulate a desire for fine bodily form. The Farnese Hercules could motivate the urge for physical strength and achievement. The love of natural activity might be indirectly roused by Joseph Mari Korbel's "Dancing Girls."

To produce unconsciously a greater interest in children and a desire

to understand them, there is such sculpture as Rodin's "Brother and Sister" and a "Mother and Child" by Isidore Konti.

Like painting, sculpture can give certain specific health knowledge, but it is knowledge of another sort, belonging largely within the province of physical education. For one thing it can present more vividly than the other arts information as to *what good posture is*—through the "Victory of Samothrace," for example. It also can provide graphic representation of the correct performance of certain skills. The illustrations are again familiar ones: Myron's "Discobolus"; statues of discus throwers in other positions; "The Wrestlers," the original of which is in the Ufizzi Gallery of Florence.

METHODS

There are four possible methods of teaching health in association with fine art:

One is direct—in a lesson avowedly on health. Sculpture and paintings have been utilized in teaching posture, and Dutch genre has been used to help teach cleanliness and food sources.

Another method is the correlation—ever so subtle—of health with history of art, or art appreciation. Here would be needed a teacher who, though a thoroughgoing aesthete, sensed keenly also the élan of vital wholesomeness in beauty; one who was capable of conveying that very important attitude to her students without their being conscious of health teaching as such. For the normal child is not interested in health in and of itself.

The third method, and one probably fairer to art than the others, is to use the masterpieces as part of the background, the painting on the classroom wall, perhaps, and the sculpture in a niche in the corridor. In this way whatever attitudes the works could instill would be acquired quite unconsciously.

Projects are possible. An excellent one could involve sculpture, mythology, and poetry with Hercules as the figure of central interest. Without pointing a moral the health implication could be allowed an opening. Naturally the potentialities of projects in this connection are just beginning to unfold. With alert interest teachers and parents should be able to probe the stores of art and produce countless relevant materials.

LITERATURE

Too much emphasis cannot be laid upon the following: a masterpiece of any sort should not be used as a tool for making a health point. Such a procedure is not only detrimental from an artistic point of view, but it may invalidate the health idea as well. Neither is it legitimate to twist interpretations for one's own uses. This has proved a temptation to several health educators in connection with well-known stories and legends. Mother Goose has been drafted to teach health rules. Pandora, King Midas, and more recent classic figures have taken on characteristics quite foreign to their original selves in order to serve the cause of health. Health is a monumental idea, but if it is not the idea of the painter or writer it is ethically unfair to saddle him with it. Moreover, it is big enough to deserve better treatment than such plagiarism.

Indicative of the inadequacy of this study is the fact that no thoroughgoing grading of materials according to age has been attempted. This would be of especial value in the realm of literature. But for the present consideration, rather than suffer any arbitrary division, adult and juvenile literature will be grouped together.

Terman and Lima in *Children's Reading* quote Lady Eastlake as saying, eighty years ago, "The real secret of a child's book consists not in its being less dry and less difficult but in its being more rich in interest, more true to nature, more exquisite in art, more abundant in every quality that replies to childhood's keener and fresher perceptions. Such being the case the best juvenile reading will be found in libraries belonging to their elders, while the best juvenile writing will not fail to delight those who are no longer children."

Emotionalized health attitudes—probably more varied than those affected by art—are capable of being created by poetry and prose.

Poetry can help notably in building the loves of children and grown-ups; for the love of outdoor life and natural activity there are innumerable poems. Whether one takes an imaginary plunge with Browning or goes skating via Wadsworth he is adding to his love of active living.

To intensify enjoyment in cleanliness, for example, there is Rupert Brooke's "The Great Lover," whose loves were simple ones, for clean and earthy things—"white plates and cups, clean gleaming" . . . "live hair that's shining and free" . . . "the benison of hot

water" . . . "new peeled sticks and shining pools on grass." On another and less concrete sort of cleanliness is an older verse of Richard Watson Gilder:

> "Thy mind is like a crystal brook
> Wherein clean creatures live at ease . . ."

By virtue of its rhythms poetry is better suited than prose to produce in children a desire for sleep and rest. The lullaby is a palpable hypnotic. For later years there are verses such as "Wynken, Blynken, and Nod" and "Sleepytown Express."

The will to overcome obstacles to health has an important place among health attitudes, and is familiarly inspired by biography, Theodore Roosevelt being already the classic and shining illustration. Stevenson plays a similar rôle. Darwin provides the heroic example of good mental health while sustaining physical handicaps. Better yet, perhaps, are the biographies which can instill a purposeful desire to improve the health of others. Pasteur and Trudeau are splendid examples of this social motive.

Parent education and education for parenthood have valuable exponents in Hugh Walpole, May Sinclair, and Dorothy Canfield. Their psychology seems sound and their interest in mental health and character development is all-absorbing. Walpole's *Fortitude,* May Sinclair's *Mary Olivier,* and most of Dorothy Canfield's novels contain many passages which distinctly promote an appreciation of harmonious home life, an understanding of children, and an attempt to meet their problems. These are merely examples of attitudes and samples of writings which one can find in abundance in his own reading.

The place of general literature in habit formation was thought to be negligible; that is, the works which do motivate health habits have not been of a high literary standard. Like most of the health plays they have not been "lifted out of propaganda into the realm of art." The story of Persephone, however, and Hawthorne's "Miraculous Pitcher" have both been used in teaching food and diet habits. If it involves the sacrifice of the story's own point and beauty, then such use is not permissible.

Two pieces of children's literature which bear rather directly on health habits and yet retain a definite literary value are Ottilia Adel-

borg's "Clean Peter and the Children of Grubbylea" and Walter de la Mare's poem "A Child's Day." The latter is didactic only in spots; teeth cleaning and bathing are delightfully tied up with geography, fairies, and nonsense.

The business of preaching to children or adults through poetry is far from popular. And not the least unpopular form is moralizing on health matters. The didactic is dangerous unless the instruction is pretty thoroughly veiled. Consider the health poems that have been foisted on us in recent years. Some are not so very far removed from the saccharine type of verse which used to over-eulogize the obedient and tractable child, written by unimaginative persons like those who deplored what they called the immorality and untruth of Mother Goose and who in reaction strove to lead children dully in the way they should go. One agrees rather with Sir Walter Scott that we would not give the tear shed over Red Riding Hood for all the benefits derived from a hundred histories of Jimmie Good-Child. That brand of writing has now so thoroughly lost caste that it is perhaps unnecessary to dwell upon its negative value in health education.

In such a surface-scratching survey as this the effect of art and literature on habits cannot be ascertained. Indirectly through attitudes there are probably salutary results, but we have not as yet the means by which to trace that devious course of influence. The foregoing mentions, therefore, only those which on the face of them deal expressly with health habits.

When it comes to literature which imparts health knowledge, poetry, being less informational than other forms, is much less valuable. Nature stories and biography provide the desired materials. Here is needed "that rare combination of high scholarship and literary ability" possessed by such as Henri Fabre, John Burroughs, W. H. Hudson, Eva March Tappan, and Hendrik Van Loon, in all of whom children generally find interest. Their information on subjects related to health is in such form that it could not be classed as scientific writing *per se* and yet its ultimate soundness is undeniable. It is obvious that following the lives of men like Trudeau or Grenfell can give young people, in adolescence or earlier, a vast amount of health knowledge which will be far more interesting to them than all the romanticizing about Victor Vitamin and Jimmie the Germ.

For adults there is an increasing volume of popularized science, not all ranking as good literature. Of the better grade, however, there are some noteworthy illustrations, among them Paul de Kruif's "Microbe Hunters." Not only is such literature instructive but it has the secondary, and perhaps quite as significant, effect of helping to develop a scientific attitude in the layman. Generally speaking, however, such informational writing has not reached the stage of development for adults that it has for children. This may be because it seems less necessary, adults being more generally capable of accepting readily the directly scientific. Van Loon and de Kruif herald possibilities in the literature of the future.

METHODS

There seem to be three methods of combining literature and education in health, methods not altogether distinct from one another. Those leaders who were consulted seemed to favor the teacher's reading to the class bits from story or biography, and then making the books available for children to pursue further where they are interested. Such partial correlation could be made either in English classes or in health classes. Ideally it would not be in the latter, because ideally there would be no health classes as such.

Here again there are openings for projects, the above method being used as a starting point. For instance, there are projects having their points of departure in *The Cloister and the Hearth* and *The Last Days of Pompeii* and leading to a thoroughgoing study of medieval sanitary conditions. Other practicable ones will suggest themselves. This derived interest method should be a useful way of implanting health knowledge, provided always that the story is not distorted for the educational purpose nor wrong emphasis given which would shift the significance from the idea which is in the mind of the health educator. This needs to be carefully guarded against because in effect it may become misinterpretation.

It would seem that the teacher who has art and literature blended in her understanding will make the most desirable use of it in health education. Like a good story teller she does not drag in her material by the heel, but taking advantage of the psychological opportunity lets it enter her conversation in its natural setting. It must be approached with delicacy of feeling; to ride rough shod into the

field would be unforgivable. If we dissect the thing of beauty for our own purposes, though much may be learned from it, we lose the beauty in the process.

The greatest need is for reliable means of checking up, of measuring, the influence of special works of art on an individual. Thus far the best means we have of determining what effect a book has had upon attitudes is to talk it over with individual children, a method of obvious limitations. Only occasionally can conduct be definitely traced to the reading of a certain book; attitudes scarcely more often. How are we to tell what effect reading "King Arthur" has had upon Johnnie's attitude toward girls? And do the tales of impossible adventure lead a boy into day dreaming? Does he feel from them the inadequacy of his own life? Have we to steer our way between the Scylla of sensationalism and the Charybdis of prosaicness? Compasses are necessary, and maps. Guesswork is a clumsy method and may prove injurious.

SOME PROBLEMS FOR FURTHER STUDY

1. What cases are there of improved mental health as the direct result of reading a particular piece of literature? Study of such cases.
2. What effect have the Russian novels of Tolstoi, Dostoievsky, and others, on mental health?
3. Is Ibsen a positive or a negative influence upon mental health?
4. What influence has modern poetry on the sex attitudes of young people?
5. Is Walt Whitman a positive or a negative factor in health education? Is he "the epitome of joyous healthiness" or an "unclean boor"?

METHODS OF CONSTRUCTING AND VALIDATING THE GATES READING TESTS*

By ARTHUR I. GATES
Professor of Education, Teachers College

IN a recent article in THE RECORD,[1] the team of four tests designed for the objective measurement and diagnosis of ability in reading in Grades 3 to 8 was described and methods of using the instruments were explained. In the present article will be given certain details concerning the construction of the team of tests, together with statistical evidence of the validity of the underlying assumptions, the reliability of the measurements, the equivalence of forms, practice effects, and the like.

THE THEORY UNDERLYING THE TESTS

The theory underlying the team of tests is that there are many kinds of reading activities and that some of them are distinctive enough to be measured by special instruments. A corollary of the theory is that the different types of reading activities are dependent upon specific techniques, abilities, or skills. It would be assumed that these techniques are highly integrated patterns and, though they differ as total skills, they may include various common elementary techniques. A third assumption is that the several skills required for different types of reading are, or may be, acquired as the result of practice. If these assumptions are correct, it would be expected, inasmuch as the methods of training pupils would vary, that individuals would demonstrate different degrees of ability in the several types of reading. It would be expected, for example, that two persons of substantially equal average reading ability would often show different profiles of attainments in the several particular types of reading. From these considerations, it would follow that in measuring reading ability the proper procedure would be to appraise sep-

* Gates Silent Reading Test, Grades 3 to 8. Bureau of Publications, Teachers College, Columbia University.

[1] *Teachers College Record*, Vol. XXVIII, No. 1, September, 1926.

arately each of the several highly important types of reading. This, in fact, is the purpose of the team of tests.

The evidence in favor of the general theory and the several corollaries has been accumulating over a considerable period of time. It will be unwise to attempt to review this evidence here. Some accumulations and interpretations by the writer appear in the publications listed in the footnote * at the end of this article.

SELECTING A TEAM OF SIX TESTS

Having accepted the general theory, the task of selecting a "best" team of tests to carry out the diagnostic measurements was undertaken. A series of test-unit types was developed from suggestions secured from various sources. This long list of test-unit types was reduced on the basis of such evidence as the following: (1) published studies showing intercorrelations of reading tests of types similar to those in the list; (2) intercorrelations of sample tests, mainly in mimeographed form, used in various studies by the writer; (3) the evidence of disparity found in studies in which the transfer of improvement due to training in one type to other types was determined; (4) the judgment of thirty experts in education concerning the general importance and probable frequency of each type of reading represented by the tests.

On the basis of this combined evidence, six varieties of test units were finally selected. These six samples, as far as we could tell from the evidence accumulated, represented the most important and distinctive types of ordinary reading techniques. The types follow.

1. *Reading to Get the General Significance.* Each form consists of 24 exercises of the following type.

> 16. The little country boy had been brought to the city. He had been shown the high buildings. He had ridden in the subways and had seen bright electric signs at night. But after three days he began to grow weary of the sights of the city. He longed to go back to the country. "Oh, how I wish I could see a little running brook!" he sighed.
>
> Draw a line under the word which best tells how the country boy felt.
>
> angry afraid homesick happy playful

2. *Reading to Get the Main Idea.* Each test comprises 24 paragraphs of the type below. The task is to underline the statement which best gives the main ideas.

> 11. We do not sleep the same all through the night. To begin with, we sleep deeply. Even fire engines rushing by might not waken us. It is good to sleep deeply. It makes us well and beautiful. That is why the first hours of sleep are called "the beauty sleep." After these first hours we sleep less and less deeply and a small noise can waken us very easily.
>
> The Beauty Sleep
> Why We Should Sleep During the Day
> How We Sleep During the Night
> How Much Sleep We Should Get

3. *Reading to Predict the Outcome of Given Events.* Each of 24 paragraphs like the one below is to be read and the statement underlined which tells what is most likely to come next.

> 15. Margery's doll house had just under its roof a tiny room with a glass window. The window could not be opened, and there was a lace curtain behind it. Margery had always wanted to see in that room. She thought of all the pretty things that might be there. One day she broke the window. When she looked in there was nothing there!
>
> Margery took a chair out of the little room
> Margery laughed to see the pretty things
> Margery broke the window again
> Margery sat down and cried

4. *Reading to Understand Precise Directions.* Each test consists of 24 exercises of the following type.

>
>
>
> 13. Walter had these three pieces of money. He wanted to buy a valentine for the school valentine box. He found valentines for fifty cents, ten cents, and twenty-five cents, but no one was to pay more than ten cents. Draw a line under what Walter paid for the valentine.

5. *Reading to Outline a Paragraph.* After reading each of the 24 paragraphs, the pupil numbers the four statements, 1, 2, 3, 4, to indicate the order in which the events occurred, or the order in which they should logically occur to outline the facts given in the paragraph.

9. Here is a trick. Take a drawer from a match box. Cut down the rim an eighth of an inch. Glue matches across the bottom to look like a drawer full of matches. Show the people the full box. Empty the matches on the table. While the people are looking at the matches, turn the box over, open the drawer, bottom up, showing them the full drawer.

Show the people the full box of matches
Empty the box on the table
Glue matches on the bottom of a match box
Show the people the drawer, bottom up

6. *Reading to Note Details.* This test consists of 18 passages equivalent in difficulty to the following.

10. Nogasak was a little Eskimo girl. She lived with her parents in a village near the North Pole. It was a queer-looking place. The houses were rounded mounds of snow about as tall as a man. They were close together. Each family built its house where it pleased. There were no streets, as there was no need for them in so small a village.

Where did the little Eskimo girl live?
in tropics near North Pole in Europe
near South Pole

What was her house made of?
straw brick snow grass

What was queer about the village?
no snow no houses no streets no people

These six tests were next studied in order to ascertain whether a few of them, and if so which ones, would form a team as useful or almost as useful for diagnosis and measurement as the entire number. In selecting tests for a smaller team, we took into account not only the importance and distinctiveness of each test but also the ease of administering the test, the simplicity of the method by which the pupil indicated his comprehension, the speed and accuracy with which the results could be scored, and the reliability of the results obtained. Two forms of each of the six tests were therefore printed for use in determining these facts.

SELF-CORRELATIONS AND INTERCORRELATIONS OF THE SIX TESTS

Both forms of all six tests were given to approximately 100 pupils in each grade from Grade 4 to Grade 8. In Table I are given the self-correlations and intercorrelations from a sampling of these groups—83 pupils from Grade 5, 78 from Grade 6, and 69 from Grade 7. The time for each test was 12 minutes.

The intercorrelations shown in Table I are frequently high. They are high in part because certain factors such as intelligence, amount of reading experience, determination to excel, and the like, influence achievement in all types of reading. Whether one test does or does not measure the same thing as another is best shown by comparing the correlation of the test with itself and its correlation with another

TABLE I

A. CORRELATIONS OF TEST 1, *Reading to Get the General Significance of a Passage*, WITH ITSELF AND THE OTHER FIVE TESTS, AS INDICATED

	Test 1. Self	Test 2. Main Idea	Test 3. Outcome of GivenEvents	Test 4. Precise Directions	Test 5. Outline	Test 6. Details
Grade 5	.90	.78	.86	.65	.52	.75
Grade 6	.94	.76	.80	.55	.60	.71
Grade 7	.81	.75	.71	.63	.61	.68
Average	.883	.763	.79	.61	.577	.713

B. CORRELATIONS OF TEST 2, *Reading to Get the Main Idea*, WITH ITSELF AND THE FIVE OTHER TESTS, AS INDICATED

	Test 2. Self	Test 1. General Significance	Test 3. Outcome of Given Events	Test 4. Precise Directions	Test 5. Outline	Test 6. Details
Grade 5	.80	.78	.85	.61	.53	.77
Grade 6	.75	.76	.84	.68	.73	.80
Grade 7	.80	.75	.68	.82	.71	.74
Average	.783	.763	.79	.703	.657	.77

TABLE I (*Continued*)

C. Correlations of Test 3, *Reading to Predict the Outcome of Given Events*, with Itself and the Other Five Tests, as Indicated

	Test 3. Self	Test 1. General Significance	Test 2. Main Idea	Test 4. Precise Directions	Test 5. Outline	Test 6. Details
Grade 5	.91	.86	.85	.60	.65	.75
Grade 6	.94	.80	.84	.60	.69	.78
Grade 7	.91	.71	.68	.74	.73	.71
Average	.92	.79	.79	.647	.69	.747

D. Correlations of Test 4, *Reading to Understand Precise Directions*, with Itself and the Other Five Tests, as Indicated

	Test 4. Self	Test 1. General Significance	Test 2. Main Idea	Test 3. Outcome of GivenEvents	Test 5. Outline	Test 6. Details
Grade 5	.83	.65	.61	.60	.55	.71
Grade 6	.79	.55	.68	.60	.74	.64
Grade 7	.87	.63	.82	.74	.70	.85
Average	.83	.61	.703	.647	.683	.733

E. Correlations of Test 5, *Reading to Outline a Paragraph*, with Itself and the Other Five Tests, as Indicated

	Test 5. Self	Test 1. General Significance	Test 2. Main Idea	Test 3. Outcome of GivenEvents	Test 4. Directions	Test 6. Details
Grade 5	.74	.52	.53	.65	.55	.71
Grade 6	.91	.60	.73	.69	.74	.86
Grade 7	.87	.61	.71	.73	.70	.78
Average	.84	.577	.657	.69	.683	.783

F. Correlations of Test 6, *Reading to Note Details*, with Itself and the Other Five Tests, as Indicated

	Test 6. Self	Test 1. General Significance	Test 2. Main Idea	Test 3. Outcome of GivenEvents	Test 4. Directions	Test 5. Outline
Grade 5	.88	.75	.77	.75	.71	.71
Grade 6	.93	.71	.80	.78	.64	.86
Grade 7	.90	.68	.74	.71	.85	.78
Average	.903	.713	.77	.747	.733	.783

test. Our interpretation of these correlations and other data in the process of selecting a smaller team of tests will be given.

SELECTING THE TEAM OF FOUR TESTS

We sought first for a test of reading for the purpose of apprehending the main point or main significance of the paragraph as given; reading that would require a general grasp of the passage as a whole. Tests 1 and 2 in the series were both possible choices. Of Tests 1 and 2, the former was chosen for four reasons: (1) The reliability coefficient (.883) of Test 1 is higher than that of Test 2 (.783). (2) Test 1 gives a lower average intercorrelation with the remaining four tests. The two average coefficients are .672 for Test 1 and .73 for Test 2. Test 2, in other words, although of lower reliability, duplicates more the elements of the other tests than does Test 1. (3) The percentage of accuracy of the pupil's responses is higher in Test 1 than in Test 2. This fact, together with the lower correlations of Test 1 with the other tests, is interpreted to mean that this test, better than Test 2, measures ability to appraise the general significance of the whole passage without analysis of details. (4) The comprehension exercises in Test 1 were more satisfactory. They require little reading in addition to the paragraph and are executed with a minimum of time. For these reasons, Test 1 was selected as a measure of rather easy grasp of the general upshot of a passage.

A second type of test was desired that would require something more than a mere grasp of the content or general significance of a passage; a test that would require the use of the main ideas of a paragraph to solve a related issue. Test 3 was designed for this purpose, but Tests 2 and 5 were considered as possible. Of these three, Test 3 was most satisfactory. Its reliability coefficient, .92, is higher than .783 for Test 2 and .84 for Test 5. Test 3 was of a more satisfactory degree of difficulty, which was greater than that of Test 1, but less than that of Tests 2 and 5. It was considered by various experts to measure the special skills desired. Test 3 is correlated with Test 1, already selected, to the extent $r=0.79$. No two tests in the series finally selected correlated so highly. But when it is considered that Test 1 correlated with itself 0.883 and Test 3 with itself 0.92, it is clear that these two tests do not by any means measure the same techniques.

A third type of test desired was one which called for very rigid, exact comprehension and recall of the facts given. Test 4, Directions, proved to be very suitable for this purpose. Although pupils of average intelligence in Grade 3 could read and execute these directions correctly when they tried hard, the typical pupil executed correctly only about 40 per cent in Grade 3 at midyear, a figure which increased to about 75 per cent in Grade 8 at midyear. Studies of particular pupils convinced the writer that these errors were mainly of the sort often attributed to "carelessness." More properly they should be ascribed to inadequate technique for doing this particular type of reading. This test measures what was sought, namely, skill in accurate, precise reading. That such skills can be acquired has been amply demonstrated.[3] The Directions test has a relatively low correlation with Tests 1 and 3, already selected as members of the team.

A fourth type of test approved by the judges was one which would measure the ability to discover suggested details in the body of the passage. Such a test should be contrasted with one which required a grasp of the general significance of a whole passage or which required some single application of the whole context.

Test 5, called the "Outline" test, which required the arrangement of the several details in an order to indicate the logic of the passage or the chronology of events, and Test 6 which required an answer to each of three definite but not necessarily related questions concerning details of the passage were the instruments involved in the final decision. These two tests are correlated with each other to the extent r=.783, which is higher than the correlation of either with any other test. Test 5 correlates with Tests 1, 3, and 4, already selected for the team, .577, .69, .683 respectively, or on the average .65; Test 6 correlates with the same tests .713, .747 and .733, average .731. Test 5 on the basis of intercorrelations would seem to be preferable to Test 6, but when the self-correlations are noted (.840 for Test 5 and .903 for Test 6) it may be seen that the higher intercorrelations of Test 6 are due to its higher reliability. The greater reliability of Test 6 is a point decidedly in its favor. Another factor is the much greater ease of administering and scoring Test 6. Test 5 is the most cumbersome in the series to give and to score. Finally,

[3] In R. P. Carroll's *An Experimental Study of Comprehension in Reading*, Bureau of Publications, Teachers College, 1927.

a group of competent judges to whom the tests were submitted favored Test 6 because of the greater importance of the type of reading it seemed to demand. For these reasons, Test 6 was favored over Test 5.

The battery of tests now selected includes Test 1, Test 3, Test 4, and Test 6. This series of four tests was finally accepted as the most adequate practical team. It does not diagnose strengths and weaknesses in all conceivable reading skills but it does do so for four important types. The diagnosis thus secured gives clues to remedial treatment that are as detailed as is practicable for use in most schools at the present time.

THE CONSTRUCTION OF GRADE NORMS

The scale of grade averages was constructed as a standard of comparison. For this purpose a number of average classes in typical New York City schools were secured. Nearly all the classes used had been measured by intelligence tests and were known to be of average mentality; the remainder were the middle classes in schools in which the pupils were sectioned on the basis of achievement examinations and teachers' judgments. Since all six tests were given to each class, a rotating schedule was used which made it possible to allow for practice effects. The final averages for each grade were averages of the several class averages. For each grade, between 250 and 350 pupils were tested. The curve which made the best fit with the several grade averages was drawn and the scale, published in the Manual of Directions, gives the "reading grade" for each *number of exercises correct* from 1 to a maximum. A grade scale for the *percentages* of test units correct was also constructed. The grade scores, as arranged, should indicate very closely what the hypothetical average child in a typical New York City school scores on the tests at the grade status indicated.

THE CONSTRUCTION OF AGE NORMS

The usual difficulties were encountered in computing age averages from the population studied because of distortion of the distribution by selection—the youngest children being considerably brighter and the oldest considerably duller than the average of the entire population of their age. For our purposes a scale was desired that would

represent as nearly as possible the average attainments of unselected children of each age in order that pupils of average intelligence in an average school situation for an average time would receive an age score approximately equal to their mental age. To secure an unselected sampling of children at all these ages was impracticable.

The method adopted was the arbitrary device of estimating the grade position of the average pupil at different ages and assigning to these ages the scores found for the equivalent grade position. The estimate that the average pupil in New York City schools begins Grade 1 at 6.4 years of age and advances a grade in 1.1 years was utilized. In other words, the score which gives a pupil a grade rating of 3.0 gives him an age rating of 8.6 years; the score which gives a pupil a grade rating of 4.0 gives him an age rating of 9.7 years, and so on.[4]

DETERMINING THE EQUIVALENCE OF UNITS WITHIN A TEST

In all four types of tests the difficulty of the test units was determined by giving the tests to groups who were allowed time to complete all the exercises. Both forms of all the tests were given in this way to ten large classes; three from Grade 3, three from Grade 4, two from Grade 5, and two from Grade 6. The percentage of correct responses to each exercise was determined separately for each grade level. On the basis of these data, exercises were modified or supplanted by others which were in turn tried out with typical exercises from the original tests. In the final forms, the exercises differ but slightly in difficulty.

DETERMINING THE EQUIVALENCE OF FORMS

From the data used in determining the equivalence of the units it was possible by a small amount of shifting of exercises from one form to the other to get two forms of substantially identical difficulty with respect to the frequency of errors made. Although equal in this sense, one form might be harder than another since certain units equally often correctly comprehended might require different amounts of time. To test this possibility, both forms of each test were given to two classes of Grade 3 to Grade 8 inclusive. One class took

[4] See W. A. McCall's *Measurement in Education* (Macmillan Co.) for an excellent discussion of various methods of constructing age scores.

Form 1 first; the other, Form 2. When the average scores for each were combined, practice effects were eliminated. These tests were given under a time limit. The number of exercises attempted and the number correct were both computed. The results were studied at the different grade levels. A few alterations resulted in producing for each type of test, two forms of substantially equivalent difficulty for all grades in number of paragraphs correct and number attempted in a given time. In sum, the elements of the two tests are approximately equal as far as the frequency of errors is concerned, and the two *forms* of each test are equivalent in the sense that in a given time pupils will have covered the same number of exercises and earned the same test scores in one as in the other.

PRACTICE EFFECTS

The effects of practice in one form on the score in the second form of a test taken immediately after were determined by giving to two classes from Grade 3 to Grade 8 inclusive, the two forms of each test one after the other. In half of the cases Form I was given first, in the other half Form 2. Averaging the results eliminates the differences in difficulty of the forms and reveals the practice effects. They were very slight: 3.5 per cent for the Directions test, 3.1 per cent for Details, 2.7 per cent for General Significance, and 2.0 per cent for Predicting from Given Events. When given after an interval of a day or more, the score on the second test exceeds that on the first by about two-thirds of these amounts.

RELIABILITY OF THE TESTS

The reliability of these tests is largely determined by the ability of the examiner to make the directions clear, keep the pupils at maximum effort, time the test period correctly, score results accurately, and so on. When these factors are equal, the length of the test is a determining condition. Increasing the length of the test, of course, increases the cost of printing, giving, and scoring. The times for the tests finally adopted were those which yield fairly reliable results in the hands of efficient examiners. For a group of fairly well trained examiners the *average* difference between a first and a second test—making no allowance for practice effects—is about 0.3 of a point on the three tests which yield scores from 0 to 24 and about 2.1

points on the Details test, which yields a maximum score of 54. Unless the examiner is skilled, two forms of the test should be given when accurate individual measurements are desired. In the hands of examiners of moderate skill, one test should be sufficient for the appraisal of a group of ten or more pupils.

PUBLISHED FORMS OF THE TESTS

The four tests selected as the best team for purposes of measurement and diagnosis were titled as follows:

Type A. Reading to Appreciate the General Significance of a Paragraph (Time, 6 minutes)

Type B. Reading to Predict the Outcome of Given Events (Time, 8 minutes)

Type C. Reading to Understand Precise Directions (Time, 8 minutes)

Type D. Reading to Note Details (Time, 8 minutes)

Two forms of each have been prepared and other forms will be produced as needed. The tests, together with a Manual of Directions for giving and scoring the tests, and instructions for using the tests in diagnosis and remedial instruction are distributed by the Bureau of Publications, Teachers College. Another team of tests has been prepared for use in Grades 1 and 2.[5]

[5] Described in *Teachers College Record*, Vol. XXVIII, No. 2, October, 1926.

* "An Experimental and Statistical Study of Reading and Reading Tests," *Journal of Educational Psychology*, 1921, pp. 303-314; 377-392; 446-465. *The Psychology of Reading and Spelling with Special Reference to Disability*, Bureau of Publications, Teachers College, 1922. "A Study of the Depth and Rate of Comprehension in Reading," *Journal of Educational Research*, 1923, pp. 37-50. "The General and Specific Effects of Training in Reading," *Teachers College Record*, 1924, pp. 98-124. "A Critique of Methods of Estimating and Measuring the Transfer of Training," *Journal of Educational Psychology*, 1924, pp. 545-559.

NEW STUDIES IN EDUCATION

STATUS AND WORK OF THE TRAINING SUPERVISOR—THE CRITIC TEACHER *

TEACHERS colleges have long recognized the importance of better coördinating the work of the college and of the training school so that the student would be able to understand each in terms of the other. The type of cooperation required to do this demands much of each staff. In times past there has been a feeling that the training school staff would not be equal to these demands. Likewise, questions have been raised regarding the fitness for this cooperation of the college instructors who offer the first two years of elementary teacher-training work. Both of these should be investigated. This study is centered upon the former issue and deals with two problems: (1) to determine the fitness of the training supervisor (critic teacher) to coöperate successfully with the college instructor in coördinating their efforts and in working out a unified teacher-training program for the college; and (2) to suggest ways and means of aiding the training supervisor (critic teacher) more effectively in meeting her obligations to the college and to the student in carrying on her work.

THE PROBLEMS OF THE STUDY

In addition to the above problems this study presents a comprehensive analytic picture of the work and varied practices of the training supervisors—just what they are doing, how they are attempting to do it, and the conditions under which they are working. Suggested evaluations of typical procedures are given.

The study is based upon the replies of 433 supervisors from 31 states, representing 55 state teachers colleges belonging to the American Association of Teachers Colleges; it deals with the training supervisor's education and experience, her work and working conditions, present practices and coöperative efforts, and her insight into her varied and complex relationships.

FINDINGS AND SUMMARY

The findings of the study are suggested by the following partial summary:

1. The typical (median) training supervisor held a bachelor's degree; had been a student in college within the last three years; had definite preparation for training supervision; had had 12 years' experience and had been in her present position over 3 years; and often taught one or more college courses during the year (40 per cent of the 433 supervisors were doing such college work).

2. The working conditions and work of the training supervisor presented an impossible program for satisfactory attainments, suggested by the following:

* By Noble Lee Garrison, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 281.

a. The supervision of practice teaching and participation work—from 20 to 30 clock hours a week—was heavy enough in itself under favorable conditions, but it had to be done with 50 per cent more student teachers than the Association's maximum standard; too little student teaching and less observation of such; 20 per cent less demonstration teaching for the student than the Association's minimum standard; and conferences on extra time difficult to arrange.

b. Little or no systematic assistance was given her in coördinating her work with that of the college. She was forced, in general, to use the means of least value in this respect.

c. Extra-curricular activities and the demonstration teaching for college classes were largely uncontrolled and undistributed.

d. Forty-three per cent of the supervisors had engaged in research and experimental work; and one in every five had published books, magazine articles, pamphlets, etc.

e. Most of the supervisors felt they did not receive the pay, privileges, and rank enjoyed by the college instructors for similar qualifications and service.

3. Insight into the work. The training supervisors showed a thorough grasp of their work in its broader aspects by stating, on their own initiative, the fundamental difficulties bearing on four large phases of teachers college work, and by making positive remedial suggestions regarding them. These are classified and reported by the study as follows:

a. Problems pertaining to training supervision itself.

b. Problems related to curricular requirements.

c. Problems related to college courses.

d. Problems relating to the unification and realization of a clear-cut teacher-training program for the college.

In the conclusions and recommendations of the study, dealing with practical problems common to many colleges and of fundamental significance in the improvement of teacher-training work, it is suggested that teachers colleges should coöperate in a scientific attack on the more vital problems so that progress might be hastened and results more quickly secured and checked. Such work would involve most of the departments of the colleges.

THE MEASUREMENT OF EARLY LEVELS OF INTELLIGENCE*

IN THE realm of mental testing a question which has both theoretical and practical interest is that relating to the differences between individuals of equivalent mental ages but widely differing chronological ages. What, if any, are the differences between the mental processes of the young normal and the old sub-normal? Can we satisfactorily measure both groups on the one scale or should we construct our tests in such a way that we compare each individual only with those whose chronological ages are close to his own? Are some elements in, or some types of, mental tests more susceptible than others to differences in length of experience?

An opportunity for attempting to obtain some light on problems of this kind was given by the mode of construction

* By Kenneth S. Cunningham, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 259.

of the lower levels of the CAVD (Completions, Arithmetic, Vocabulary, and Directions) Tests which have been worked out at the Institute of Educational Research, Teachers College. These levels represent the standardized performance of adults of poor intelligence, most of them being at imbecile levels.

In order to obtain the comparative performance of a group of normal children of equivalent mental ages the levels A to E were applied to 247 children between the ages of 2½ and 5½ years. In 119 of these cases Binet Test results were also available.

The test was found to be capable of fairly easy application to young children, though occasionally the element of repetition of similar tasks tended to a loss of interest on the part of the child. The correlation between Binet mental age and total CAVD Score was .925 with a probable error of .009 and a standard error of estimate of 4.6 months in predicting mental age from CAVD Score. On the whole, the scale seemed surprisingly successful in grading the children according to their ability.

Some interesting results were obtained from an examination of the separate tests in the scale. Scores on each do not increase at the same rate for the successive age groups and an attempt is made to explain these differences.

An examination is also made of the increases in CAVD Score made by children at four-month intervals of Binet Mental Age, and it is found that for the ages tested there is no evidence of decreasing increments. The bearing of this on the question of the growth curve for intelligence is discussed.

Coming to a more detailed comparison of the performance of the two groups certain significant differences are found. A comparison of the CAVD Scores made by individuals of given Binet mental ages in the two groups gives the interesting result that while at the lower mental ages the children obtain, on the average, higher CAVD Scores, the higher mental ages show a steady increase in CAVD Score for the adult group. The scores are about equal at a mental age of four years. The explanation is suggested that the CAVD Test is more heavily weighted for experience than is the Binet and that those of higher mental ages have profited more by their experience (in comparison with the children) than have those of lower mental ages.

Tables are published giving for all items in the scale the percentage of successes obtained by 180 imbeciles and by a selected group of 100 children. The difference between the percentages obtained by these two groups is then examined so as to select those test items in which the observed difference is three times or more the standard error of the difference. Of the 200 items in Levels A to E there are 56 where, according to the criterion just stated, the differences are probably significant. Of these, 44 are cases where the children obtain a higher percentage of successes than do the imbeciles, while the remaining 12 tests represent tasks which were significantly easier for the adults. In some cases the observed difference rises to more than ten times the standard error of the difference. An attempt is made to group these cases where the ratios appear to be more or less decidedly significant and to detect the presence of any common elements within the tasks of any one test which stand out as being decidedly easier for one or other of the groups.

The opportunity is taken for reviewing the various opinions and investigations relating to differences between those of normal and subnormal mentality, and it is suggested that this question is related to that of the existence of 'higher' and 'lower' mental processes within the individual.

WHAT CITIZENS KNOW ABOUT THEIR SCHOOLS*

THAT a citizen's interest and wholesome attitude in respect to public education are conditioned by correct information is a thesis presupposed by this study. The problem was: (1) to determine what is pertinent information concerning schools; (2) to prepare a test involving that information; (3) to submit such test to a sufficient random sampling of the public; and (4) to state in quantitative terms what citizens know about their schools.

The author claims that the public is no longer prepared to accept blindly further changes recommended and further demands for financial support without conviction as to the soundness of the proposals. The public is still prepared to support that educational program which can be shown to be fitting and proper in the light of tried and proved modern educational practice. Thus, to the pupil, the curricula, the plant, and to the financing, there is added another element for serious consideration by the school, viz., the citizen. To that end educational publicity is a part of a successful and modern educational program. The publicity program must be constructed to meet the needs of the situation. It must be directed to specific groups and offered at opportune times under suitable conditions. It must be presented in an effective manner. To determine what are the needs of the situation, the initial step is to ascertain what citizens know about their schools. This study is an inventory.

Before communities could be measured as to public school information, a measuring rod had to be made. A T Scale was built whereby community may be compared with community and results stated in quantitative terms.

There are some facts and figures prerequisite to further information about the schools. Queries on these points are called primary questions. The examination used in this study is composed almost entirely of these primary questions. The criteria for question selection were based upon annual reports of city school superintendents, reports of city school surveys, and expert opinion enlisted especially for the purpose.

An examination consisting of fifty questions fashioned after the true-false type was prepared and submitted to the parents of Grade VI pupils in seventeen cities representing different geographical areas of the United States, and varying widely in respect to population. To facilitate administering the test, the examination was divided into two parts, of 25 questions each. Form A was given to one-half of the population tested and Form B to one-half, the division being made at random. A technique was utilized which indicated whether a particular test paper had been answered by the father, by the mother, or by the father and the mother working together. Teachers were requested to designate on each test paper the occupation of the parent responding to that test paper.

The examination involved 154,650 dis-

* By W. H. Todd, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 279.

tinct responses made by over 7,000 individuals. These 154,650 responses were checked, scored, and doubly tabulated, and the central tendency, reliability and variability for each distribution found.

Questions were grouped into categories and results so shown. Categories used were: The Board, Curriculum, Finance, Buildings, Pupils, Teachers, School Organization, Superintendent.

The highest percentage of right responses received by any question on the paper was 96.1 per cent; the lowest was 20.6 per cent. In the distribution of questions according to percentages of right responses received by each, the median point was 53.3 per cent, with Q equalling 14.5 per cent.

The average number of questions out of the 50 answered correctly by all people was 27.66. Computed on the basis of 25 questions, the number represented on each form of the test, the arithmetic mean of correct responses was 13.83 plus or minus .09 and sigma equalling 3.30.

Similarly computed, the arithmetic mean of right responses made by the fathers was 14.04, plus or minus .05 with sigma equalling 3.25. The same figures for the mothers show a mean of 13.47 plus or minus .05 with sigma equalling 3.41. The difference between these two means is significant, the critical ratio being 8. Where both parents worked together answering the questions the mean was 14.23 plus or minus .06 with sigma equalling 3.25.

On the whole, citizens know just about 50 per cent of what it is most desirable, even necessary, for them to know about their schools to enable them to give reasonably intelligent consideration to public school affairs. The average information T score made by all cases from all cities was 499 out of a possible 1000 points.

It is incorrect to state that citizens know nothing about their schools. There are some who know practically nothing as indicated by this examination. By these criteria, the average citizen answers correctly 27.66 questions out of 50. Furthermore, 16 2-3 per cent of the cases examined answered 34.26 questions correctly out of 50, making a T score of 599.

Despite popular belief to the contrary, if such be held, mothers know no more about the public school than do the fathers. Mothers made a little better percentage of correct responses than did fathers for the categories of Curriculum and Buildings; also .6 per cent better percentage on Superintendent. In other categories fathers showed a higher percentage of right responses.

The real purpose, or function, of the junior high school—the idea of what it tries to do—is not known by the American people.

On the whole, citizens have little idea as to the number of children their community must educate, what the community is spending on education, the number of teachers required, minimum wage paid teachers in any department. They have little idea of their relative ability to support education.

Those directing the publicity programs in city school systems need to pick out primary, or essential, facts and figures, and keep them before the public until they become known. This means they must be kept constantly before the public, for facts and figures change.

The school has accepted responsibility for keeping the public advised concerning public education. At this time the inventory of information shows the stock on hand to be 50 per cent of minimum requirements.

A STUDY OF SOME PROBLEMS ARISING IN THE ADMISSION OF STUDENTS AS CANDIDATES FOR PROFESSIONAL DEGREES IN EDUCATION *

IT IS the purpose of this study: (1) to state the major problems arising in the admission of students as candidates for professional degrees in education; (2) to present the more significant data obtained from a survey of current practice in admitting students to work in education in institutions authorized to grant degrees; (3) to indicate the need of definite educational principles as a basis for policies governing the admission of students to professional work in education; (4) to make recommendations relative to the procedure of officials responsible for the admission of students to professional work in education.

PROCEDURE AND SOURCES OF DATA

A questionnaire was sent to each of the 685 institutions listed in the Educational Directory of the United States Bureau of Education for 1926 as granting a degree and as having a department or school of education, or as offering a major in education, concerning the current practice of these institutions in admitting students to (1) an undergraduate program in education, (*a*) without advanced standing, (*b*) with advanced standing; (2) a graduate program of studies in education.

The data obtained from the questionnaire have been tabulated for four groups of institutions: liberal arts colleges, teachers colleges, publicly supported universities and colleges, and privately supported universities.

CONCLUSIONS

1. Current practice in admitting students to candidacy for professional degrees in education is not governed by generally accepted educational principles or rules of procedure.

2. Relatively little attempt has been made to obtain general agreement with respect to admission policies.

3. The variation of practice in admission procedure is much greater within the groups of institutions than among the different groups.

4. Slight attention has been given the problems of admission in teacher training institutions from a strictly professional point of view.

5. Too much emphasis has been placed upon factors of secondary importance, while primary considerations have been neglected.

6. The voluminous literature which exists on the articulation of secondary schools and colleges stands in marked contrast to the one brief study which has been made on the admission of students with advanced standing as candidates for the Bachelor's degree, and the meager literature which exists relative to admission to graduate work.

RECOMMENDATIONS

The following fundamental considerations are offered as a basis for specific recommendations which look toward bringing about a more desirable practice:

1. The admission policies of teacher training institutions should be based on general principles or rules of procedure which are applicable to the admission policies of schools preparing for admission to any profession.

* By Clarence Linton, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 285.

2. Admission policies should be based on as full knowledge as possible of what constitutes optimum professional preparation at all levels of the profession.

3. The policies governing the admission of students to teacher training institutions should take into account the nature of the profession of teaching itself, its historical background, its limitations, and its possible developments, and should be consistent with the philosophy of education which professional schools of education represent.

4. Admission policies should take into account as a primary consideration the personal fitness of the applicant for service in some field of education, while considerations pertaining to the institution from which he comes should be secondary.

5. Admission policies should recognize and accept responsibility for the educational guidance of the student from his induction into the institution.

6. The admission policies of an institution should be formulated by the most able members of the faculty in the light of fundamental knowledge and definitely stated principles, and should be executed by an admissions official of academic rank who is conversant with the policies of the institution and who is privileged to sit in all conferences when such policies are under consideration. His procedure should be subject to the approval of a committee of the faculty.

THE GOD OF THE OLD TESTAMENT IN RELATION TO WAR*

THE problem is to determine, by a detailed study of the idea of God in each Old Testament writing, what tendencies toward war or peace might be encouraged in persons taught to accept such a conception. This requires an investigation, not only of God's direct or indirect use of warfare, but also of the degree of impartiality in His treatment of different nations, the quality of His attitudes toward men, and His methods in dealing with them.

Religious educators have seldom given major consideration to the influence of Biblical material upon attitudes toward war. This study aims to enable them more readily to select and treat Old Testament material in harmony with some consistent purpose in this regard.

We find that in almost every document God is associated with war. In championship of a people or a principle, Yahweh instigates battle or participates in it. To use these writings without analyzing the influences producing such ideas, and without stimulating independent ethical criticism, would scarcely develop aversion to war.

Until Amos, we have plain henotheism. Yahweh is the God of the Hebrews alone, having no dealings with other nations except as He overpowers them for His people's sake. Amos' God of righteousness has direct relationship with other nations. In most subsequent writings, this extension of Yahweh's control does not alter the limitation of His interest and care. His treatment of other nations is determined by His purpose to reward or punish Israel, not by their own needs. Over against this usual view, Amos proclaims Yahweh's impar-

* By Marion J. Benedict, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 263.

tial punishment of nations; Deutero-Isaiah regards Israel as chosen to mediate true religion to all; the story of Jonah shows Yahweh's compassion for Nineveh; and the fragment, Isaiah 19: 18-25, depicts international fraternity and divine impartiality. Scattered passages elsewhere portray Yahweh as desiring worship from all peoples.

To teach God's impartiality would further a realization of equality of human worth and mutual responsibility of groups, whereas the idea of divine partiality encourages regarding one's own nation as uniquely important and its interests as justifying injury to others.

Attitudes attributed to God vary with the national or individual situation. Divine anger is the natural deduction from calamity or from violation of Yahweh's supposed requirements. "Jealousy" accompanies His insistence upon His people's loyalty. Special favor and love are inferred from great good fortune, while an ultimate redemptive purpose for Israel is often believed in, despite present disaster. Restored welfare indicates Yahweh's merciful forgiveness.

To teach God's wrath and jealousy does not condemn similar attitudes in human relationships, but if He is viewed as consistently loving and redeeming, the emulation of divine attitudes should lead toward peace.

Commonly, Yahweh coerces men by physical might—the forces of nature or "the sword." His non-forceful methods include bestowing undeserved blessings to evoke grateful obedience; sending prophets to urge men to heed His requirements; showing His character through a human life; giving a "new heart"; and using the non-resistant vicarious suffering of His chosen servant-nation.

Depending on physical force to vindicate the right is the principle that underlies warfare. When, however, Yahweh tries to persuade men instead of terrorizing them, His method holds quite different implications.

Peace usually rests upon one nation's dominion, achieved and maintained by force. More constructive suggestions are scattered through Isaiah.

On each point we have found some material tending toward war, and some, toward peace. The religious educator should stress whichever suits his purpose, frankly recognizing development in ethical sensitiveness, and stimulating evaluation of the present acceptability of attitudes ascribed to God.

ALUMNI ACTIVITIES

TEACHERS COLLEGE ALUMNI ASSOCIATION OFFICERS

President: Mr. Frank Pickell, Superintendent of Schools, Montclair, N. J.
First Vice-President: Dr. Fannie W. Dunn, Assistant Professor of Education, Teachers College.
Second Vice-President: Dr. Bessie Lee Gambrill, Associate Professor of Elementary Education, Yale University, New Haven, Conn.
Recording Secretary: Miss Mary Lewis, Teacher in Horace Mann School, Teachers College, New York City.
Corresponding Secretary: Miss Katherine I. Sherwin, Executive Secretary of Student Organizations, Teachers College.
Treasurer: Dr. R. G. Reynolds, Director, Bureau of Educational Service, Teachers College.
Members-at-Large: Mr. Frank Morey, Supervising Principal of Schools, Camp Hill, Pa.
Miss Effie Taylor, Professor of Psychiatric Nursing, School of Nursing, Yale University, New Haven, Conn.
Miss Marion Sheridan, 711 Orange Street, New Haven, Conn.
Alumni Trustee:
Miss Mercy J. Hayes, 301 American State Bank Building, Detroit, Mich.
Alumni Office: Russell Hall, Teachers College, 525 West 120th Street, New York City.

Address all communications to Robert K. Speer,
Field Secretary, Teachers College, New York City.

SECRETARY-TREASURERS OF TEACHERS COLLEGE CLUBS

Africa—South Africa Club
Dr. E. G. Malherbe
University of Cape Town
Cape Town, South Africa

Alabama—State Club
Miss Agnes Harris
Auburn, Ala.

Arkansas—State Club
Mr. H. G. Hotz
University of Arkansas
Fayetteville, Ark.

California—Southern Club
Miss Lela W. Aultman
6811 Leland Way
Hollywood, Calif.

CHINA—EAST CHINA CLUB
Mrs. Nita M. Stallings
Soochow, Ku, China

CONNECTICUT—NEW HAVEN CLUB
Miss Frances Terrill
100 Whalley Avenue
New Haven, Conn.

CONNECTICUT—STATE CLUB
Mrs. A. W. Jennings
1172 Chapel Street
New Haven, Conn.

GEORGIA—ATLANTA CLUB
Miss Isabel Dew
Head, Mathematics Department
Fulton High School
Atlanta, Ga.

GEORGIA—STATE CLUB
Miss Leila Bunce
Director, Home Economics
Fulton High School
Atlanta, Ga.

INDIANA—SOUTH BEND CLUB
Miss Mamie E. Kerner
115 North William Street
South Bend, Ind.

INDIANA—STATE CLUB
Mr. Howard R. Evans
Principal of Schools
Fontanet, Ind.

LOUISIANA—STATE CLUB
Prof. Homer L. Garrett
Louisiana State University
Baton Rouge, La.

MAINE—STATE CLUB
Mr. Frank D. Rowe
Supt. of Schools
Warren, Me.

MARYLAND—STATE CLUB
Miss Lucetta M. Sisk
Principal, High School
Randallstown, Md.

MICHIGAN—ANN ARBOR CLUB
Secretary
Miss Ethyl M. Neelands
Couzens Hall
Ann Arbor, Mich.

Treasurer
Miss Edith Bader
548 Thompson Street
Ann Arbor, Mich.

MICHIGAN—BATTLE CREEK CLUB
Mrs. D. R. Dudley
Asst. Superintendent of Schools
Battle Creek, Mich.

MICHIGAN—DETROIT CLUB
Recording Secretary
Miss Zaide L. Voorheis
Northern High School
Detroit, Mich.

Treasurer
Kenneth Scaall
Detroit, Mich.

MICHIGAN—GRAND RAPIDS CLUB
Mrs. Mabel Hutchings Bellows
Kensington School
Kensington and Curve Sts.
Grand Rapids, Mich.

MICHIGAN — NORTHERN MICHIGAN CLUB
Mr. Sidney Herring
401 Front Street
Marquette, Mich.

MINNESOTA—STATE CLUB
Miss Elizabeth Sadley
Northrop Collegiate School
Minneapolis, Minn.

MISSOURI—KANSAS CITY CLUB
Miss Madeleine Farley
805 East 30th St.
Kansas City, Mo.

MISSOURI—ST. LOUIS CLUB
Mr. H. P. Stellwagen
Board of Education
St. Louis, Mo.

MISSOURI—STATE CLUB
Miss Margaret Gartenbach
St. Louis, Mo.

NEW YORK—BUFFALO CLUB
Miss Agnes McCarthy
Technical High School
Buffalo, N. Y.

NORTH CAROLINA—STATE CLUB
Mr. L. R. Johnson
111 Steele Street
High Point, N. C.

OHIO—AKRON CLUB
Miss Clara Barker
614 West Market Street
Akron, O.

OHIO—ATHENS CLUB
Mrs. E. B. Smith
University of Ohio
Athens, O.

OHIO—CINCINNATI CLUB
Mr. E. D. Roberts
Asst. Superintendent of Schools
Denton Building
Cincinnati, O.

OHIO—CLEVELAND CLUB
Secretary
Miss Liva Biszantz
11311 Clifton Blvd.
Cleveland, O.
Treasurer
Miss Mary C. Frederick
Mill School
Cleveland, O.

OHIO—KENT CLUB
Miss Isabelle Hazen
Franklin Apartments
Kent, O.

OHIO—TOLEDO CLUB
Miss Grace Gordon
Riverside School
Toledo, O.

OKLAHOMA—STATE CLUB
Miss Lucy Helen Meacham
Director of Grades
Oklahoma City, Okla.

PENNSYLVANIA—HARRISBURG CLUB
Miss Helen Krall
221 S. 13th Street
Harrisburg, Pa.

PENNSYLVANIA—PHILADELPHIA CLUB
Miss Alice M. Baker
Mrs. Ida P. Statler, President
130 Price Street
West Chester, Pa.
(Acting Sec'y.)

PHILIPPINE ISLANDS
Mr. Sabino Taburnor
Bureau of Education
Division of Bataugas, P. I.

TEXAS—STATE CLUB
Miss Evalina Harrington
Primary Supervisor, Public Schools
School Administration Building
El Paso, Texas

VERMONT—STATE CLUB
Miss Mary B. Sullivan
Normal School
Castleton, Vt.

VIRGINIA—STATE CLUB
Mr. C. B. Givens
4010 West Street
Richmond, Va.

WEST VIRGINIA—STATE CLUB
Miss Wilma C. Spears
Marshall College
Huntington, W. Va.

WISCONSIN—STATE CLUB
Mr. H. W. Peterson
1049 39th Street
Milwaukee, Wis.

PRESIDENTS OF CLASSES

CLASS OF 1916
Miss Mildred Memory
1 Kermit Road
Maplewood, N. J.

CLASS OF 1917
Mrs. Hazen Hoyt
3558 65th Street
Woodside, L. I.

CLASS OF 1918
Mrs. Louise Holbrook Baldwin
1669 Columbia Road
Washington, D. C.

CLASS OF 1919
Mrs. Joseph M. Couse
408 Asbury Park Avenue
Asbury Park, N. J.

CLASS OF 1920
Miss Ruth Taft
294 Macon Street
Brooklyn, N. Y.

CLASS OF 1921
Miss Margaret Briggs
1505 Jefferson Avenue
Scranton, Pa.

CLASS OF 1922
Miss Eva Wagner
Lincoln School
425 West 123rd Street
New York City

CLASS OF 1923
Miss Grace Ely
6 Kendall Green
Washington, D. C.

CLASS OF 1924
Miss Sallie Serson
34th and Chestnut Streets
Philadelphia, Pa.

CLASS OF 1925
Miss Helen Warren
The Garrison Forest School
Green Spring Valley
Garrison, Md.

CLASS OF 1926
Miss Yvonne Fassler
542 Second Avenue
Pelham, N. Y.

TO ALUMNI OF TEACHERS COLLEGE

What does Teachers College mean to you? Do you want to keep in touch with her? The best way to maintain your connection is through the Alumni Association. You can become a member of the Alumni Association, receive the TEACHERS COLLEGE RECORD eight times a year, and become a member of the Teachers College Club nearest you by paying $2.50 to the secretary of that club. (You will find a list of the clubs with the names and addresses of the secretary-treasurers on the first page of the Alumni Activities section.) If there is no club near enough to be of interest to you, send your dues ($2.50) to the Alumni Secretary, 525 West 120th Street, New York City.

TO THE LOCAL CLUBS

MY DEAR SECRETARY:

Each year as the College reopens our first thoughts here in the alumni office go to the Teachers College people in the field. There are so many things to be done and we return in the fall with so much zest to do them that we should not lose a moment in getting started. Again we are welcoming several new local clubs and are eager to assist in completing the organization of several others.

This year we have in mind a more ambitious program than we have attempted for some time. As soon as it is more definitely outlined, I shall send you further word concerning ways in which alumni can be of assistance in carrying it out. For the present we depend on the local club secretaries for help in three ways. First, you can help both the Alumni Association and your own local club to grow by obtaining members. Each member you obtain pays you $2.50, of which you send us $2.20 for his membership in the Association

and a year's subscription to the TEACHERS COLLEGE RECORD, and you keep thirty cents for his membership in your local club. Any one who has ever attended Teachers College, even for one Summer Session, is eligible to membership.

In the second place, you can help to make the Alumni Notes in the TEACHERS COLLEGE RECORD more interesting by sending us news of the professional activities of your members. It is very difficult for us here at the College to obtain news notes unless the alumni will send them to us. Brief reports of your club meetings are most urgently requested. Others are as much interested in your activities as you are in theirs.

And in the third place, you like to have members of the faculty of your Alma Mater speak at your club meetings. We do all we can to keep track of their speaking engagements so that we can notify you if anyone is to be in your vicinity. On the other hand, we shall appreciate it if you will send us, as far in advance as possible, the approximate dates of your club meetings, and also notify us if you hear that a member of the faculty is to be near enough so that we can arrange for him to speak to you.

Especially do we ask more active cooperation on the part of many club secretaries that we may help the clubs to function to the fullest extent. Tell us how we can assist you. We are glad to do everything we can.

With cordial greetings from the Alumni Association, I am

Sincerely yours,

KATHERINE I. SHERWIN,
Corresponding Secretary,
Alumni Association.

TEACHERS COLLEGE CLUB OF PHILADELPHIA

The Teachers College Club of Philadelphia held a very enjoyable meeting on May 14, with Dr. E. C. Broome, superintendent of schools of Philadelphia, as guest and speaker. The Club itself was entertained at luncheon by the Lower Merion Junior High School at Ardmore, Pa., under the special supervision of the principal, Mr. Edward Snow.

The secretary read the minutes of the last general meeting and of two executive committee meetings held during the year. Upon motion of Mr. Snow it was decided that it would be best to continue the present officers and executive committee until the following year, electing new ones at the first meeting in the fall.

Dr. Broome gave a very interesting talk on the growth of the junior high school and on the steady progress of educational ideals and attainments. Miss Wilson of the junior high school faculty entertained with two vocal solos.

With the exception of the eighty-six charter members in 1917, the club is larger now than at any time since, numbering in May, 1927, sixty-three members.

ALUMNI NOTES

John Guy Fowlkes (Ph.D. 1924) has returned to the University of Wisconsin as professor of education instead of associate professor of education, after spending a year on leave of absence at the University of California.

Conway L. Rhyne (A.M. 1925) has been appointed vice-principal of Amos Hiatt Jr. High School, Des Moines, Ia.

Margaret E. McCaul (A.M. 1924) was instructor in elementary education at the University of Missouri last sum-

mer. Miss McCaul has now returned to her regular work as instructor in education, Teachers College, Kansas City, Mo.

Oscar F. Koch (A.M. 1924) is entering upon his seventh year as principal of the Kewanee High School, Kewanee, Ill.

Virgil Binford (Student 1927) has been vocational director in Logansport, Ind., for the past seven years. He has been appointed business manager of the Teachers College of Indianapolis, Ind.

Mamie Lott (A.M. 1927), formerly instructor in arithmetic in Indiana State Normal School, is now director of the demonstration school of the Teachers College of Indianapolis, Ind.

Ruth Harding (A.M. 1925), formerly with Russell Sage College, now has charge of textiles and clothing in the Teachers College, Indianapolis, Ind.

Alice H. Walker (Student 1920) is director of the social service department, Harper Hospital, Detroit, Mich.

Lydia M. Broecker (A.M. 1926) is with the Dairy Council in Philadelphia directing nutritional work. They have about fifty workers in the Council, ten of whom are on the nutrition staff.

Adele Meger Outcalt (Student 1917) is principal of the Garfield School, San Diego, Calif.

Nathaniel G. West (Student 1924) is on sabbatical leave for advance study and is teaching administration in the school of education, New York University. His two courses are "The Elementary School Principalship" and "Principles and Problems of Elementary Education."

Edna Marie Van Fleet (B.S. 1925) is dean of the Kindergarten Training School at Ewha Haktang, Seoul, Korea. Twenty-one girls graduated in the kindergartens of the city, which will be supervised by Miss Van Fleet until the return from furlough of Miss Charlotte Brownlee, another former student at Teachers College.

Jeannette C. Hulbert (A.M. 1921) is teaching psychology at Ewha College, Seoul, Korea. Last winter she gave a translation of two of the Alpha Army tests in some of the schools of Seoul.

Alice R. Appenzeller (A.M. 1922) is president of Ewha College, Seoul, Korea. The college has government recognition and enrolled 108 in the two departments, music and English, this year. A third department, home economics, will be opened when Miss Harriet Morris, now taking work in Teachers College, returns.

JOHN RUFI, HEAD OF EDUCATION DEPARTMENT, MICHIGAN STATE COLLEGE

Dr. John Rufi, who was granted the Ph.D. degree in January, 1927, has been appointed head of the department of education at Michigan State College, East Lansing, Mich. Dr. Rufi is a member of the National Education Association Committee on Curriculum Problems of the Small High School, and is especially interested in secondary education in villages and rural communities. He is the author of *The Small High School*, published by the Bureau of Publications, Teachers College.

JULIUS E. WARREN GOES TO LAKEWOOD, OHIO

Mr. Julius E. Warren has resigned his position as assistant superintendent of schools at Springfield, Mass., to become superintendent at Lakewood, Ohio. Mr. Warren received his A.B. degree from Dartmouth College in 1910 and

his M.A. from Teachers College in 1923. From 1912 to 1918 he taught English and was head of the English department in two or three different high schools. From 1918 to 1921 he was principal of the high school at Brattleboro, Vt., going the next year into a similar position at Gloversville, N. Y. In 1922 he became assistant superintendent of schools in Gloversville. In 1925 he went to Springfield, Mass., as assistant superintendent.

HERBERT D. BIXBY, HEADMASTER OF UTICA COUNTRY DAY SCHOOL

Mr. Herbert D. Bixby, who has been assistant superintendent of schools at Cleveland, Ohio, since 1920, has recently resigned his position to become headmaster of Utica Country Day School, New Hartford, N. Y. Mr. Bixby was granted the A.B. degree by Tufts College in 1902. In 1919 he received his M.A. degree from Harvard University. In 1925 he was a student at Teachers College and he has also taken further work at Harvard. From 1908 to 1917 Mr. Bixby was principal of the training school at the State Normal School, Lowell, Mass. The next two years he was principal of the high school in the same city. In 1919 Mr. Bixby went to Cleveland as principal of the East Technical High School and was promoted to assistant superintendent in 1920. He has also taught in the summer schools of Ohio State University and Harvard University.

RECENT ALUMNI APPOINTMENTS

Albert, Mary—Elementary school supervisor, Rural Schools, Hagerstown, Md.

Amery, Elizabeth—Secretary of Homemaking Bureau, Girl Scouts of America, Washington, D. C.

Anderson, Grace M.—Critic teacher, Maxwell Training School for Teachers, Brooklyn, N. Y.

Armstrong, Rhandena—Director, Home Information Center, Boston, Mass.

Atwater, Ruth—Home economics consultant, National Canners Association, Washington, D. C.

Ayers, N. Howard—Teacher of mathematics, Westfield High School, Westfield, N. J.

Babcock, Mary F.—Teacher of kindergarten and nature study, Western Reserve University, Cleveland, O.

Bain, Winifred—Instructor in kindergarten and first-grade work, Teachers College, New York City.

Bair, F. H.—Superintendent of schools, Shaker Heights Public Schools, Cleveland, O.

Bancroft, Lydia A.—Director of fine and industrial arts, Cullowhee State Normal School, Cullowhee, N. C.

Barbour, Elizabeth L.—Teacher of history, Western State Teachers College, Kalamazoo, Mich.

Barthelmess, Harriet M.—Assistant director of research, Philadelphia Public Schools, Philadelphia, Pa.

Bartlett, (Mrs.) Cornelia Comegys—Assistant to the editor of the Home Bureau of *Pictorial Review*, New York.

Barton, W. A., Jr.—Professor of education, Coker College, Hartsville, S. C.

Bason, Cecilia H.—Assistant professor of education, University of North Carolina, Chapel Hill, N. C.

Behrends, Frederick C.—Director, Hope Farm, Verbank, N. Y.

Bernhardt, Jane M.—Critic teacher of kindergarten, University of California, Los Angeles, Calif.

Berwin, Leonore—Manager of clubhouse and dining room, Dayton Country Club, Dayton, O.

Beyer, Nancy—Director of the art department, Women's College, University of Delaware, Newark, Del.

Binder, Harriet M.—Supervisor of art, Public Schools, Bernardsville, N. J.

Birkeland, Martha—Rural school supervisor, State Department of Education, Helena, Mont.

Bishop, Romalda—Teacher of third grade, Birch-Wathen School, New York City.

Bixby, Herbert D.—Headmaster, Utica Country Day School, New Hartford, N. Y.

Blasdell, Bruce J.—Teacher of mathematics and science, High School, Mechanicsville, N. Y.

Borgeson, F. C.—Assistant professor of education, University of Rochester, Rochester, N. Y.

Boatman, Conway—Professor of psychology and education, Sterling College, Sterling, Kan.

Boulden, Ruth—Instructor in mathematics, Choate School, Brookline, Mass.

Brown, Azalia M.—Teacher of dressmaking and costume design, Industrial High School, Mount Vernon, N. Y.

Brown, Elinor M.—Director of nursery school, Castle Foundation, Honolulu.

Bullis, (Mrs.) Mabel H.—Teacher of art, Thomas Edison School, Cleveland, O.

Burns, Gertrude—Director of nursery school, Cleveland Kindergarten-Primary Training School, Cleveland, O.

Burr, Samuel Engle—Director of research, Public Schools, Lynn, Mass.

Butterfield, Marguerite—Critic and demonstration teacher, State Normal School, Potsdam, N. Y.

Campbell, Margaret E.—Teacher of English and history, Shaw High School, East Cleveland, O.

Campbell, Nellie M.—Instructor in psychology, State Normal School, Glassboro, N. J.

Carnell, Dorothy Boyd—Instructor in biology, Hackensack High School, Hackensack, N. J.

Carrigan, Ruth—Teacher of fine arts, Winthrop College, Rock Hill, S. C.

Carroll, Jane M.—Principal-supervisor, elementary training school, Kansas State Teachers College, Pittsburg, Kan.

Caruso, Maurice—Teacher of Italian and French, Emerson High School, Union City, N. J.

Chase, Mary Julia—Teacher of industrial arts, elementary school, Grand Rapids, Mich.

Chilton, Nell—Teacher of English, Greensboro High School, Greensboro, N. C.

Christianson, Erica—Itinerant teacher-trainer of home economics, State of Arkansas, Little Rock, Ark.

Clayton, Mary M.—Instructor in nutritional physiology, Mt. Holyoke College, South Hadley, Mass.

Cobb, T. P.—Assistant professor of Spanish, University of Chicago, Chicago, Ill.

Cole, (Mrs.) Myrtle G.—Dean of women, University of Tulsa, Tulsa, Okla.

Compton, C. V.—Superintendent of schools, Union City Public Schools, Union City, Tenn.

Cook, Mary H.—Director of home management house and teacher of home management, State Teachers College, Buffalo, N. Y.

Cooley, Genevieve—Assistant head of residence, New Jersey College for Women, New Brunswick, N. J.

Cooley, J. C.—Principal of Clark

Township Centralized School, Franklin, Ind.

Corning, Hobart M.—Superintendent of schools, Colorado Springs, Colo.

Crawford, Mildred G.—Junior high school critic teacher in mathematics, Michigan State Teachers College, Ypsilanti, Mich.

Curran, Emily—Teacher of nutrition, Public Schools, Newark, N. J.

Davenport, Iris S.—Clothing specialist, University of Louisiana, Baton Rouge, La.

DeLong, Leo R.—Assistant professor of education and assistant director of teacher training extension, Pennsylvania State College, Harrisburg, Pa.

DeVore, Emily—Demonstration teacher, San José State Teachers College, San José, Calif.

Dodge, Amy Bates—Head of special classes, Washington Irving School, Tarrytown, N. Y.

Doster, Agnes M.—Manager of Women's Faculty Club, Urbana, Ill.

Duncan, Vera—Critic teacher, Geneseo State Normal School, Geneseo, N. Y.

Eckford, Eugenia—Instructor in art, Tower Hill School, Wilmington, Del.

Edens, Annette—Assistant professor of art structure, University of Cincinnati, Cincinnati, O.

Emery, Kathreen—Teacher of elementary methods, fine arts, Colorado State Teachers College, Greeley, Colo.

Esteve, Sensitiva V.—Instructor in Italian and Spanish, Adelphi College, Brooklyn, N. Y.

Farley, Belmont—Professor of education, Western State Teachers College, Kalamazoo, Mich.

Farrar, Preston C.—Associate professor of English, University of North Carolina, Chapel Hill, N. C.

Fassler, Yvonne—Director of physical education, Scarsdale High School, Scarsdale, N. Y.

Feaster, Dorothy—Teacher of English, Tenafly High School, Tenafly, N. J.

Fletcher, Margaret—Dean of women, State Normal School, New Paltz, N. Y.

Ford, Elizabeth S.—Director of physical education, Mt. St. Joseph's College, Chestnut Hill, Philadelphia, Pa.

Fox, Margaret E.—Teacher of art, Mount Clemens, Mich.

Frederick, Victoria—Assistant head of residence, New Jersey College for Women, New Brunswick, N. J.

Fugate, Mary C.—Acting dean, Averett College, Danville, Va.

Gaffney, Matthew Page—Superintendent of city schools, Aberdeen, S. D.

Gibling, Dorothy S.—Supervisor of practice teaching in physical education, New Jersey State Normal School, Trenton, N. J.

Giles, Josephine—School psychologist, South Orange and Maplewood schools, South Orange, N. J.

Goss, Virginia—Teacher of drama, Horner Institute and Conservatory, Kansas City, Mo.

Graden, Fern—Teacher, Cottage for Immigrant Women, Denver, Colo.

Graham, W. A.—Superintendent of city schools, Kinston, N. C.

Grady, Thelma F.—Associate in educational research, Lincoln School, New York City.

Granrud, John—Assistant superintendent of schools, Springfield, Mass.

Grant, Mae—Instructor in home economics, East Central State Teachers College, Ada, Okla.

Graves, Lillian M.—Instructor in English, Southern Oregon Normal School, Ashland, Ore.

Grewe, Freda M.—Teacher of Eng-

lish, Junior High School, Rutherford, N. J.

Gross, Clara C.—Critic teacher of history, Temple University, Philadelphia, Pa.

Gurney, Georgianna L.—Teacher of history and English, Wappingers Falls High School, Wappingers Falls, N. Y.

Haig, Mrs. Anna F.—Head of English department, High School, Bronxville, N. Y.

Haines, Kathleen—Teacher of vocational education, Emerson Senior High School, Lakewood, O.

Hall, Marion Dee—Teacher of music, Tower Hill School, Wilmington, Del.

Hall, William F.—District rural school supervisor, State Teachers College, Tahlequah, Okla.

Hallam, Berta K.—Teacher of kindergarten, Public Schools, Hicksville, L. I.

Halsey, Elizabeth S.—Teacher of art and science, Shippen School for Girls, Lancaster, Pa.

Hamilton, William Harold—Teacher of mathematics, Franklin High School, Highland Park, N. J.

Harris, Agnes—Dean of women, University of Alabama, Tuscaloosa, Ala.

Hayden, Florence—Supervisor and teacher of music, Public Schools, Stratford, Conn.

Hazen, Mrs. May R.—Principal of elementary school, Lincoln School, Providence, R. I.

Henderson, Bess L.—Head of foods and cookery department, West Tennessee State Teachers College, Memphis, Tenn.

Henry, M. Frances—Instructor in home economics, Colorado State Teachers College, Greeley, Colo.

Heybroek, May E.—County supervisor, Public Schools, Jacksonville, Fla.

Hill, G. Martha—Instructor in physical education, University of Oregon, Eugene, Ore.

Hoovens, Agnes—General science teacher, High School, Red Bank, N. J.

Howe, Ruby—Assistant to the Dean, Cornell University, Ithaca, N. Y.

Hughes, Mrs. Louise B.—Principal, Washington Seminary, Washington, Pa.

Irons, James Ralph—Principal of Francis Joseph Reitz High School, Evansville, Ind.

Jessup, Katherine E.—Assistant professor of education, Adelphi College, Brooklyn, N. Y.

Jones, Lloyd M.—Instructor in physical education, Western State Teachers College, Kalamazoo, Mich.

Karpeles, Lotta M.—Assistant superintendent of Girls' Training School, Adrian, Mich.

Kimball, Carol—Head of department of English, High School, Waverly, Pa.

Klemm, Germany—Instructor in fine arts, Ohio University, Athens, O.

Laflamme, Félicité—Teacher of French, Battin High School, Elizabeth, N. J.

Lakenan, Margaret—Assistant professor of English, State Teachers College, Fredericksburg, Va.

Lee, Ethel Frances—Teacher of Latin, High School, Manhasset, L. I.

Lee, Sarah—Associate professor of clothing, Sam Houston State Teachers College, Huntsville, Tex.

Leonard, J. Paul—Teacher of literature and history, Ethical Culture School, New York City.

Lindeman, Mary Eleanor—Assistant supervisor of practice, State Normal School, Trenton, N. J.

MacCallum, Hazel—Instructor in industrial and fine arts, Teachers College, Miami University, Oxford, O.

MacDonald, D. J.—Assistant director,

Lithographic Technical Foundation, New York City.

McAvoy, Clifford N.—Instructor in French and music, Riverside Country School, New York City.

McBride, Minnie F.—Supervisor and teacher of geography, Coatesville, Pa.

McClelland, Liberty—Principal, College Hill School, Easton, Pa.

McCord, James W.—Assistant principal, Jacksonville, Fla.

McCrea, Edith—Instructor in fine arts, University of Cincinnati, Cincinnati, O.

McKenzie, Janet—Teacher of English, High School, Hackensack, N. J.

Mabee, Fred C.—Professor of chemistry, State Teachers College, Harrisonburg, Va.

Maher, Margaret R.—Teacher of penmanship and spelling, Public Schools, Nutley, N. J.

Manchester, Miriam—Assistant in English department, University of Illinois, Urbana, Ill.

Manderfeld, Josie, I.—Instructor in problems of art as found in industries, School of Applied Arts, University of Cincinnati, Cincinnati, O.

Mantor, Lyle E.—Professor of history, Nebraska State Teachers College, Kearney, Neb.

Marbut, Helen—Assistant professor of health education, State Teachers College, Harrisonburg, Va.

Martin, Lycia—Teacher of education, Trenton Normal School, Trenton, N. J.

Mathews, C. O.—Associate professor of education, Ohio Wesleyan University, Delaware, O.

Mayes, Dorothy F.—Teacher of French, High School, Tenafly, N. J.

Mayo, Robert C., Jr.—Vice-principal, Andrew Jackson High School, Jacksonville, Fla.

Meadows, Thomas B.—Professor of education, Milligan College, Milligan College, Tenn.

Mendenhall, James—Assistant in social science, Lincoln School, Columbia University, New York City.

Milliman, Alice—Instructor in mathematics, State Normal School, Whitewater, Wis.

Mills, Beatrice A.—Teacher of cookery, Weaver High School, Hartford, Conn.

Mooar, Eva A.—Director of personnel and admissions, Womens College of Brown University, Providence, R. I.

Moore, Harriet C.—Supervising principal of high school and town schools, Whitingham, Vt.

Moore, Ruth—Teacher of history and English, High School, Forest City, N. C.

Moran, Mary Katharine—Teacher of nutrition, Public Schools, Newark, N. J.

Morton, Flora Edith—Instructor in textiles and clothing, Acadia University, Wolfville, Nova Scotia.

Murray, Maria D.—Instructor in clothing and household economics, Finch School, New York City.

Myers, Janet—Teacher of methods and supervision of home economics, Michigan State Teachers College, Ypsilanti, Mich.

Nash, Florence—Teacher of music, Temple University, Philadelphia, Pa.

Nelson, Agnes—Critic teacher, State Normal School, Oneonta, N. Y.

Newman, F. Evelyn—Teacher of fine arts, Public Schools, Grand Rapids, Mich.

Norton, Dorothy W.—Teacher of first grade, State Normal School, Montclair, N. J.

Panebaker, Laura E.—Teacher of biology, Tubman High School, Augusta, Ga.

Parks, Enzia—Teacher of seventh and eighth grades, Public Schools, Toledo, O.

Payne, Blanche—Assistant professor of home economics, University of Washington, Seattle, Wash.

Peck, Margaret—Social director of Couzens Hall, School of Nursing, University of Michigan, Ann Arbor, Mich.

Peters, M. Theresa—Director of physical education, State Normal School, Bellingham, Wash.

Petty, Grace—Critic teacher, Michigan State Teachers College, Ypsilanti, Mich.

Ponce de Leon, Margarita—Head of modern languages, Texarkana Junior College, Texarkana, Tex.

Postlethwaite, Edna—Teacher of Latin and mathematics, Bradford Junior College, Bradford, Mass.

Price, Mary A.—Teacher of English, Lincoln School, Huntington, N. Y.

Rath, Virginia—Assistant professor of health education, Teachers College, Harrisonburg, Va.

Rippetoe, Mollie A.—Teacher of grade 1, Hubbell Elementary School, Des Moines, Ia.

Robbins, Evelyn G.—Supervisor of art, Public Schools, Tenafly, N. J.

Roda, Frank C.—Superintendent of schools, Waterford, N. Y.

Rouse, Helen E.—Instructor in clothing and textiles and supervisor of practice teaching, State Normal College, Kent, O.

Rutledge, (Mrs.) Lillian R.—Teacher of English, Jamaica Training School, Jamaica, L. I.

Sanders, Margaret—Teacher of Latin and English, Franklin High School, Highland Park, N. J.

Sawyers, William A.—Principal of high and elementary schools, Cristobal, Panama Canal Zone.

Seleen, Ruth S.—Teacher of history, public school, Garden City, L. I.

Sherwin, Margaret A.—Instructor in physical education, University of Wisconsin, Madison, Wis.

Smith, Afton—Assistant to director of child welfare, University of Cincinnati, Cincinnati, O.

Smith, Jennie R.—Teacher of history, Kenmore Junior High School, Kenmore, N. Y.

Smith, Meredith—Director of Los Angeles Progressive School, Los Angeles, Calif.

Smith, William Lois—Teacher of English and assistant dramatic coach, Ethical Culture School, New York City.

St. John, Sara Lucile—Director of kindergarten, E. J. Brown School, Dayton, O.

Steacy, Frederick William—Professor of education, Union College, Barbourville, Ky.

Steckelberg, Marie Mathilde—Instructor in Latin, Western State Teachers College, Kalamazoo, Mich.

Stickwood, Alice M.—Lecturer in advanced foods and nutrition, Macdonald College, McGill University, Ste. Anne de Bellevue, Quebec, Canada.

Stoddard, Paul W.—Instructor in English, Morgan Bulkeley High School, Hartford, Conn.

Swan, Waldo H.—Principal of high school, Woodstock, N. B., Canada.

Swift, Josephine—Assistant professor of art structure and applied fine art, School of Applied Arts, University of Cincinnati, O.

Tarleton, Edna Virginia—Instructor in home economics, New York State College for Teachers, Albany, N. Y.

Tarpley, Elizabeth—Instructor in household arts, University of Texas, Austin, Tex.

Taubeneck, Ignatius D.—Teacher of social science and public speaking, Senior High School, Bronxville, N. Y.

Taylor, Florence E.—Teacher of grade five, Horace Mann School, New York City.

Thompson, Gertrude M.—Teacher of kindergarten, State Normal School, New Paltz, N. Y.

Thompson, Mary B.—Academic head and teacher of mathematics, The Misses Kirk's School, Bryn Mawr, Pa.

Threlkeld, A. L.—Superintendent of schools, Denver, Colo.

Tilson, M. Agnes—Specialist in parental education, Merrill-Palmer Schools, Detroit, Mich.

Throlls, Zoe—Instructor in geography, Pittsburgh University, Pittsburgh, Pa.

Trowbridge, Gail—Teacher of art and kindergarten, Public Schools, Bronxville, N. Y.

Troxell, Eleanor — Kindergarten-primary supervisor, Public Schools, Kalamazoo, Mich.

Van Ormer, Edward B.—Instructor in psychology, College of Wooster, Wooster, O.

Van Wagenen, Amy E.—Instructor in foods and home management, Elmira College, Elmira, N. Y.

Wadsworth, Florence C.—Director of religious education, First Congregational Church, Nashua, N. H.

Walker, Helen M.—Associate in educational measurement, Teachers College, Columbia University, New York City.

Walker, Richard H.—Teacher of Latin, Scarboro School, Scarboro, N. Y.

Warner, Hope Deming—Instructor in history, University of Cincinnati, Cincinnati, O.

Warren, Julius—Superintendent of schools, Lakewood, O.

Watson, Clara Belle—Teacher of mathematics, High School, Plattsburg, N. Y.

Weigele, Julia—Instructor in physical education, State Normal School, New Haven, Conn.

Welker, Grace D.—Teacher of English, Franklin High School, Highland Park, N. J.

Wells, Jean M.—Teacher of biology, Miss Mill's School, Inc., Pittsfield, Mass.

West, Helen G.—Teacher in home economics, Continuation School, New Brunswick, N. J.

Williams, Fannie Belle—Instructor in home economics, Iowa Wesleyan College, Mt. Pleasant, Ia.

Willis, Margaret—Associate professor of college history, Woman's College, Constantinople, Turkey.

Wilson, Margaret—Teacher of sixth grade, Wiley School, Raleigh, N. C.

Wilson, Marian L.—Teacher of fourth and fifth grades, Friends' School, Atlantic City, N. J.

Winchell, Jessie A.—Director of parental education work, Monmouth County, N. J.

Woodall, Allen E.—Instructor in English, University of Minnesota, Minneapolis, Minn.

Wyland, Mary Jane—Assistant professor of education, State College, Pa.